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NOV. 2015

AMERICAN SNOWMOBILER

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We've scoured North America to bring you the best riding destinations for 2016. High peaks, smooth trails, big powder, cool corners and more. It's all in our exclusive Getaway Guide!

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AMERICAN
SNOWMOBILER

American Snowmobiler (USPS# 014-333, ISSN# 1078-6414) is published six times per year (Oct., Nov., Dec., Jan., Feb., Spring) by Kalmbach Publishing Co., 21027 Crossroads Circle, P.O. Box 1612, Waukesha, WI, 53187-1612. Periodical Postage Rates paid at Waukesha, Wisconsin and additional offices. Postmaster: Send address changes to American Snowmobiler, 21027 Crossroads Circle, P.O. Box 1612, Waukesha, WI, 53187-1612. Canada Post Publication Agreement Number 40010760.

We were wrong once, once!

Back in 2004, the Polaris Fusion 900 was the new, hot muscle sled. Like many in the snowmobile world, we were giddy about this new beast and excited to ride it! The futuristic styling and adjustable handlebars, as well as the monster 900cc 2-stroke Cleanfire engine, had our fires stoked! In an editor's column we said, "Polaris has laid its hopes for regaining the No. 1 title squarely on the Fusion and its new Cleanfire technology."

Well, as we all know, the Fusion didn't work out exactly as we hoped, and our excitement was quickly extinguished. The lesson? Anyone can get it wrong once in a while, especially when there is a lot of hubbub. We are all human. That being said, the Fusion led to new innovations, chassis changes and a return to the great traditions that made Polaris strong. Now, 11 model years later, Polaris is back vying for the top spot in the market with Ski-Doo. Recently, V.P. Mike Jonikas quietly retired from Polaris, but he was adamant about returning Polaris to its former glory. Kudos!

This isn't just a Polaris history lesson, but a realization that getting it wrong has often led OEMs to their best achievements. Setbacks happened before Yamaha's record-breaking original Phazer. Same with model years before Ski-Doo shot to No. 1 with the REV in 2003, and Cat turned early Firecat temperaments into the famous F7 Sno Pro, an all-time personal favorite.

This is our **Performance Issue** and like you, we are in the garage putting on accessories, tuning, prepping and readying for snow. Right now, skinned knuckles are causing cursing in barns across the snowbelt, but not to worry. Everyone gets it wrong once in a while, and the best part of the year is coming up quickly!



Mark Boncher, Editor
mboncher@kalmbach.com

ON THE WEB

WIN A NEW SLED! YOUR CHOICE: ONE OF TWO ARCTIC CATS ... TRAIL OR MOUNTAIN!

AmSnow has teamed up with Arctic Cat to give you a shot at winning your choice between a ZR 8000 Limited or an M 8000 Limited. Trails or mountains, this sweepstakes has a sled for you! See: www.amsnow.com/sweepstakes.



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SUBSCRIPTION RATES: 1 year (6 issues) \$14.95, 2 years (12 issues) \$26.95, 3 years (18 issues) \$37.95. Canadian: 1 year \$19.95, 2 years \$34.95, 3 years \$47.95. International: 1 year \$22.95, 2 years \$42.95, 3 years \$61.95. Payable in U.S. funds drawn on U.S. banks only. Canadian price includes GST (BN 12271 3209 RT). Expedited delivery service surcharges: Domestic First Class \$15.00/yr; Canadian Air \$15.00/yr; International Air \$35.00/yr. Printed in the U.S.A.



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Jump Around!

Photographer: John Asta

Rider: Jonny Buschmann, HMK Athlete

Location: Buffalo Pass, Colo.

When terrain is at its harshest, you've got to be at your best. HMK Athlete Jonny Buschmann gives this wind lip his best "hop-over" move from one running board to the other. The cameras caught it all on a late-season photo shoot in Colorado.



ON THE WEB // More awesome photos
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FACTS, RUMORS & PEOPLE

Polaris announced the promotion of **Julie Benton** to Snowmobile Marketing Manager, replacing Andy Kroll. The company also announced the promotion of **Scott Kuklock** to Product Line



Sales Manager for snowmobiles ... Polaris is once again teaming up with **Costco Auto Program** to offer exclusive promotional pricing and benefits to Costco members on purchases of Polaris snowmobiles, ATVs and side-by-sides. The promotion runs Sept. 1-Nov. 30 ... **Cor PowerSports** recently announced two new sponsors for the 2016 racing season: **Raptor Performance Shocks** and **Castle X Clothing**. Cor PowerSports also partnered with **Drew Robertson** of Evolved SX Extreme Conditioning to provide fitness info for snowmobilers at www.corpowersports.com ... **Straightline Performance**, a leader in Ski-Doo aftermarket performance parts, has announced that it is venturing out into the Yamaha performance market with the release of an "Ulmer Racing" Yamaha Viper Exhaust System ... **509** officially launched its trailer for **Volume 10** in its snowmobile action video series dating back to 2006. The film will be available for purchase on DVD and iTunes in early September.

Snowmobile Hall of Fame inducts four



THE SNOWMOBILE HALL OF FAME and Museum in St. Germain, Wis., announced four inductees for 2016. The following will be inducted during a ceremony on **Feb. 13, 2016**:

1 Hubert Fixsen of Willmar, Minn., was a prolific race engineer for Arctic and John Deere who invented many trend-setting ideas and technologies for snowmobiles. While he served as mechanic, his drivers won two Winnipeg-St. Paul I-500s, an ICCSF Championship and dozens of other cross-country victories.



and Polaris who captured wins and championships in prestigious oval, snocross and cross-country events of the 1980s and 1990s. He later built Speedwerx into a top aftermarket company.

2 Steve Houle of Forest Lake, Minn., was a multi-discipline racer for Yamaha



3 Tom Zernia of West Bend, Wis., a founder of International Snowmobile Racing (ISR), the governing body of rules making for snowmobile competition since 1979, served as Technical Director for ISR while creating and enforcing fair and safe rules for all forms of racing.



4 Brad Pake

of Felton, Minn., was a Team Arctic terrain racer in the 1990s, at which time he captured two International 500 cross-country wins, an ISOC championship and multiple victories in snocross and cross-country events.



Snowmobile fans are invited to attend the 33rd Annual SHOF Induction Ceremony and Ride With the Champs event to meet, talk and ride with many of the sport's biggest stars, including *AmSnow*'s Tech Editor Olav Aaen. There are modern and vintage trail riding opportunities, dinner, an induction ceremony and a museum full of vintage sleds and memorabilia. Info: www.snowmobilehalloffame.com.

ISHOF has four new inductees

Four new members were also inducted into the International Snowmobile Hall of Fame (ISHOF) in Eagle River, Wis. **Paul Crane** (Lancaster, N.H.), **DeLyle Pankratz** (Eveleth, Minn.), **Duane Sutton** (Aberdeen, S.D.), and **David Wells** (Pittsford, N.Y.) joined the **ISHOF** in the **26th annual induction ceremony** on Sept. 26. All four men represent dedicated individuals who have worked diligently to promote, foster, develop and build the sport of snowmobiling for more than 135 years, collectively.

With the addition of these four inductees, there are now 105 snowmobile greats who have their plaques displayed in the ISHOF at the World Snowmobile Headquarters.

To learn more about each of this year's four ISHOF inductees, visit www.ishof.com or the Snowmobile News blog on **AmSnow.com**.



Paul Crane



DeLyle Pankratz



Duane Sutton



David Wells



It's snow show season!

SNOWMOBILE USA IS SET to kick off its 2015 show season with the Milwaukee Snowmobile Show, Oct. 16-18, 2015. The show then travels to Novi, Mich., Nov. 6-8, 2015. The *AmSnow* team will be there in full force for both of these great shows! Come check out the latest gear from companies like Castle, Klim, FXR, Motorfist and more, or get behind the bars of the newest sleds from the manufacturers.

There's plenty in the way of parts and accessories for your ride, too! And don't forget, this is a great place to renew your *American Snowmobiler* subscription. You'll find our best deal of the season at the show! Don't miss the opportunity to enter for your chance to win an Arctic Cat ZR 8000 Limited or M 8000 Limited! Or feel free to just stop by and talk sleds with our editorial staff. See you at the show!

BLACK DIAMOND XTREME MERGES WITH SSI

Black Diamond Xtreme and Speed Shop Inc.

(SSI), both makers of aftermarket snowmobile parts and accessories, have teamed together to continue pushing the envelope on aftermarket snowmobile parts.

Black Diamond Xtreme is perhaps best known for its Pro-Lite series sleds, which offer powerful, lightweight, deep-snow performance at a great price. The company is a leading manufacturer in the snowmobile aftermarket parts industry. SSI is a relative newcomer to the scene of snowmobile performance parts, but founder Erich Long has years of experience from the performance side of the industry, and he brings a wealth of knowledge to this venture.

Based out of Cannon Falls, Minn., the two partners have some exciting things in the works, including titanium exhausts, billet heads, clutch weights, and more performance parts, all churned out from their state-of-the-art machine shop.

Stay tuned to the magazine and *AmSnow.com* for more on these products as they come out!



Proposed changes to state trail funding in Pennsylvania

On June 26, the Pennsylvania House of Representatives unanimously passed a law that would provide for equal funding for the state's ATV and snowmobile trails. According to a report by the Pennsylvania Business Daily, the bill emphatically gained committee approval before being considered by the full House.

Rep. Martin Causer, sponsor of the measure, said House Bill 970 would have Pennsylvania's Department of Conservation and Natural Resources (DCNR) keep separate ATV management and snowmobile management accounts to guarantee balanced fund distribution.

"The number of trail miles on public lands for snowmobiles outnumbers those for ATVs by a 10-to-1 ratio," Causer said. "People paying registration fees for their ATVs expect those funds to be used to maintain and develop trails for their use. Separating the accounts will help to ensure that is happening."

In events leading up to this bill, last year Causer cited an example wherein Cameron County residents were paying ATV registration fees, yet could not ride on public lands in their jurisdiction.

"On more than 131,000 acres of forests, there is not one single trail on which people can legally ride their ATVs," Causer said. "It simply doesn't make sense."

HB 970 will also update the Snowmobile and ATV Advisory Committee membership, and strengthen audit requirements for the funds.



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1 THE NUMBER OF 129-INCH SKI-DOO SLEDS AVAILABLE IN-SEASON. THE 2016 MXZ BLIZZARD.



ON THE WEB // More News at
www.AmSnow.com/news

Divas SnowGear adds four to Pro Rider Roster

DIVAS SNOWGEAR (DSG) added four snowmobile athletes to its Pro Rider roster for the 2016 season: Amber Holt, Sarah Whipple, Amy Flowers and Nicole Sullivan. The riders will collaborate on product development, marketing, and brand awareness under direction of pro rider and DSG team member, Stephanie Schwartz.

1. Amber Holt, U.S.

Holt runs Backcountry Basics riding school, and introduces new riders – men and women, military, and government agencies – to backcountry snowmobiling. Like DSG, she shares a common goal “to grow and accommodate the industry in the women’s segment.”

2. Sarah Whipple, U.S.

Owner of RideMcCall.com, Whipple’s passion came from her mom and family, who are avid snowmobilers. She has 13 seasons of experience riding the mountains of central Idaho. “I currently live in McCall, Idaho, with a snowmobile trail right out my back door to some of the area’s best backcountry riding,” says Whipple. “I literally roll up the garage door, pull the rope and go! I enjoy riding more technical terrain in lighter, deep-snow conditions, and I really appreciate a good challenge, like trying to find new lines up through treed hillsides in untouched snow.”

3. Amy Flowers, Canada

Flowers has been instrumental in developing DSG’s Avid Technical outerwear alongside Stephanie Schwartz. She lets her riding speak for itself, but she’s also a dedicated mom who can be found racing hillclimb, hillcross, and letting her sled sing in the backcountry of British Columbia.

4. Nicole Sullivan, U.S.

One of Nicole’s main goals this year is to lean on her 15 years of riding experience to bring awareness and new ideas to DSG’s product line. She is always pushing and developing her backcountry riding, and she says that her favorite part of snowmobiling is “the friendships I have made along the way and people from all walks of life that are unique, rad, and just plain fun to be around, both on and off the snow!”

For more on Divas SnowGear, visit www.divassnowgear.com.



You Tube

Check out AmSnow on YouTube!!

American Snowmobiler's YouTube channel is live and full of action-packed and informative videos for you to peruse at your leisure. It's a great place to spend some time after a long day on the trail or out in the powder. There's reviews, how-to videos and more!

How did you spend your snowmobiling offseason?

“Working nonstop so I can go sledding every day.” - *Jeremy Mercier*

“Riding my mountain bike like crazy!” - *Jim Dooling*

“Seeking therapy for not being able to ride ... #summersucks” - *Joe Labernik*

“Dreaming of saddling up on the 2016 Yamaha Apex X-TX LE!” - *Wesley Shemanski*

WISCONSIN TRAIL PASS

A new Wisconsin law went into effect on July 1, 2015, which states that all snowmobiles operating in Wisconsin are required to display a state trail pass. Sled registration in Wisconsin costs \$30 and is valid for three years. Wisconsin residents belonging to an AWSC club can purchase seasonal trail passes for \$10. Out-of-state trail passes have increased from \$35 to \$50 for Wisconsin's 2015-16 season.





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QUICK REVIEW:
Yamaha Modular Rack Base



IF YOU LIKE to pile on the miles, then you know the value of making the most of what little cargo space your trail sled offers. Expand your storage options by attaching this durable, injection-molded rack base (SMA-8KGRK-BS-BK) to the tunnel of your 2015 or 2016 SR Viper. It features quick-release attachment points for connecting Yamaha's jerry can holder and/or water-resistant pack (sold separately). All the hardware is included, so installation is a breeze. Cost is \$102.95. **More info:** www.yamahapartsandaccessories.com.

Young Guns of Ice Drags



Michael Houle is **WAITING FOR WINTER** ... just like Arctic Cat, and more recently, Polaris. But Houle is also itching to get back on the world's first one-third scale Pro Stock 1000 ice drag sled, which he pilots in the youth classes of the National Straightline Snowmobile Racing (NSSR) circuit throughout the winter.

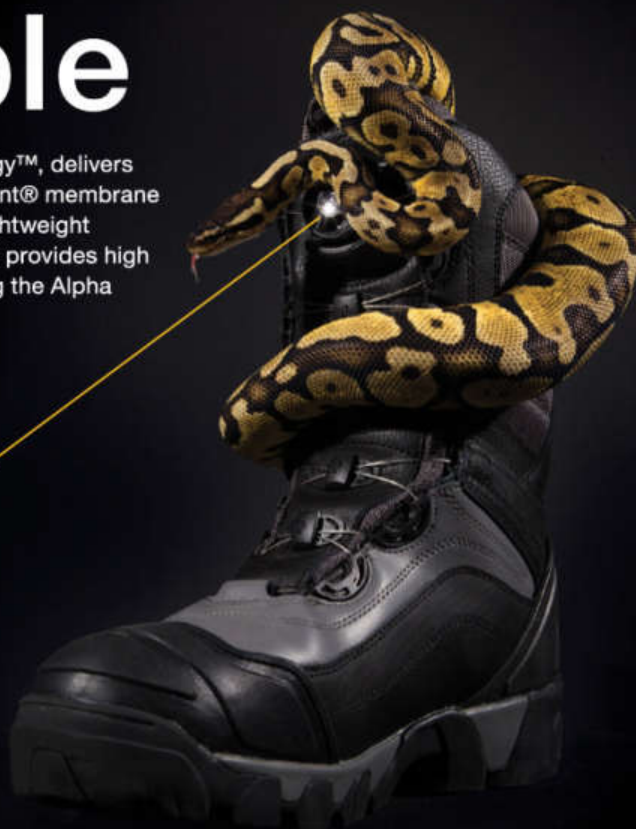
The sled was custom built from the ice up for the 8-year-old Houle. Michael's father is Jason Houle, president of Straightline Performance, and he started the build with a 333cc custom-casted single cylinder engine. The sled includes plenty of other custom parts, from hard parts to plastic.

How fast does it go? That has yet to be determined. It's currently throttle-blocked to top out at 75 mph, the maximum speed allowed for the youth class per NSSR rules. Hey, would you let your 8-year-old find the top speed of this missile on ice?

The idea behind the build was not a rocket for kids (yet), but rather a way for father and son to connect, and continue a long tradition of snowmobile racing in the Houle family. Best of luck this season, Michael!

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MAIL BONDING



SERGE DALLAIRE of Alberta writes, "Just wanted to share a pic I took of myself and two of my friends when I came to Ontario from Alberta last February. We did the Ride Algonquin Park tour ... it was cold but amazing!"



RODERICK FRASER sent in this photo, which was taken in an old abandoned truck alongside the snowmobile trail in the Katahdin region of northern Maine.



PATRICIA ROGERS emailed this picture of the Psycho Princess race team from the NHRA Division 3 Pro Stock Snowmobile drag race at Lucas Oil Raceway in Indianapolis (May 1-3, 2015).



RANDY WHEELLOCK, vice president of the Seven Valley Snow Goers club, sent us this photo of his last day of riding for the 2014-15 season in central New York.

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MAIL BONDING



BRUCE COLBURN'S 800 Pro-RMK posed for this glamour shot in north central British Columbia.



JIM BATES of Long Point, New Brunswick, sent these photos of some deep fresh last season.

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Engine: 794cc liquid 2-stroke **Drive:** Arctic 6 post (rpm sensing) primary, 10.75 in. dia. Arctic (roller cam) secondary **HP:** 153.7* **Exhaust:** APV w/ tuned pipe, pipe sensor and stainless steel muffler **Brake:** Race radial master cylinder hydraulic brake **Ski** **Stance:** 42-43 in. adj. **Front Susp.:** ARS w/ Fox FLOAT 3 shocks w/ sway bar (10 in. travel) **Rear Susp.:** Slide-Action w/ Tri-hub rear axle, coupling blocks, torque sensing link, adj. torsion springs w/ Arctic Cat (IFP) shocks (2-in. dia. rear shock) (13.5 in. travel) **Track:** 15x137x1.25 RipSaw II **Fuel Tank:** 11.7 gal. **Rec. Fuel:** 91 Octane **Dry Weight:** NA **Wet Weight:** 622 lbs.* **Season Avg. MPG:** 9.81* **Price:** \$13,699 US / \$15,499 CA *AmSnow tested



PLAY TIME! You couldn't keep us off of Mother Nature's playground with this Limited! Every bump was a jump with the cushy suspension and playful handling of this sled!

2015 Arctic Cat XF 8000 Limited »

No reason to cross this crossover!

» **When it comes to the crossover segment,** each manufacturer searches for a perfect combination of trail handling and playful off-trail manners. While it's next to impossible to create that perfect 50/50 combo, it's not for lack of trying. How close does Arctic Cat's 2015 XF 8000 Limited come to crossover perfection? We had many hundreds of miles to find out!

Adventures in off-trail adventuring

There are a few characteristics I look for right away when evaluating a sled's off-trail performance. First, it needs a light, agile feeling to the front end, and by that I mean the sled has to want to stay on top of the snow. The XF 8000 affirmatively checks this box.

For being one of the heavier sleds in the demo fleet, it wears its weight well. We found that the sled really floated on top of the snow easily, and initiating those epic powder carves required little input for

our test riders who took the XF 8000 off trail. Sidehills were a bit tougher, and it's still too easy to submarine a ski in deep snow when initiating those moves, but massive sidehills are scarce in the Midwest and Northeast, where this sled sells like hotcakes.

The handlebars and position of the sled's controls are another important off-trail characteristic. Does the bar height promote easy sitting-to-standing transitions? Are the throttle and brake located

where you can easily and comfortably operate them? Can these be moved easily to accommodate your preferences? These seem like pretty basic questions, but the answers to these can make or break a sled.

On the XF 8000, the bar height was comfortable for a majority of our riders in both seated and standing positions. Arctic Cat's bars are generally a little higher than other manufacturers. Although we would have liked a little taller riser when stand-



PROS – Surprisingly light in the front end, comfortable seated or standing, easy throttle pull, rear suspension very smooth on trail, very fun off trail, great "limited" perks!

CONS – Inconsistent front suspension on trail, sidehilling took more effort than most, inconsistent handwarmers (electrical gremlins), would have liked the bars slightly higher for off-trail riding.



ing up off trail, the bar height is the correct happy medium for a crossover sled.

The throttle pull was light compared to others in our fleet. This made things a little easier off-trail, as you're on and off the throttle quite a bit more. The brake lever seemed a bit far away for our liking, and it was almost too big to fit underneath the Rox handguards we installed – which were most welcome both on and off trail.

Another item on my major wish list for an off-trail sled is the track. Is there a big enough footprint to keep the sled afloat in the places I want it to go, or is the sled constantly trenching and getting stuck?

I can say that I was pleasantly surprised here. The 15x137x1.25 RipSaw II performed admirably, as long as I was fairly disciplined with my throttle control. If you really mash it to the bars from a standstill, you are most definitely going to get stuck in 3 feet of powder, but you can expect this from almost any crossover in deep snow. On the XF 8000, though, you really don't have to carry a ton of momentum to keep yourself in good shape.

■ Trail-ing thoughts

If I'm going to be brutally honest, the XF 8000 Limited was a bit of a Jekyll-and-Hyde ride on the trail. The front end

had some tendencies that clashed with the personality of the rear suspension in a trail setting.

We've come to enjoy the rear Slide-Action suspension. This one, in the 137-inch skid, works very well as long as you set it up properly for the rider. It took some trial and error, but we got it dialed in for a pretty smooth ride.

The front end proved more challenging. The same characteristics that made this sled work so well off trail seemed to be what hindered it on trail. We mentioned how much we enjoyed the light feeling of the front end when riding off trail, but it was almost too light on trail. The skis wanted to wander too much, which made for some interesting line choices through the corners!

We tried to dial out the jitters by adjusting the Fox FLOAT 3 air shocks up front, as well as the center and rear adjustments. For our efforts, we saw some slight improvements, but we still



TAKE 2!

VERY SMOOTH, and the engine brings back good 2-stroke vibes. I like the electric start, but the belt wear seemed to be premature even with correct settings for some strange reason.

– **Mark Boncher,**
AmSnow Editor

did not find that ultimate calibration.

Other features of the sled are what you'd expect from a "Limited" sled. The storage bag on the tunnel is more than sufficient for the day's necessities. The goggle compartment in the dash is also a nice feature. Although it's not watertight, the compartment is warmed nicely due to its close proximity to the engine, so your goggles, batteries, etc., stay functional.

The windshield was short yet strangely warm on the trail, but handwarmers were finicky. Sometimes they worked too well, and other times they just didn't get warm. We checked all the electrical possibilities, but couldn't find the problem.

Overall, the 2015 XF 8000 Limited is a solid crossover effort from Cat. A perfect 50/50 sled is nearly impossible to create, and I'd call this one more of a 45/55 on-trail/off-trail sled. It's sufficient on trail, but it's way more fun off trail! 🐾



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YOU'LL NEVER GET MY X-RS!

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2015 Ski-Doo Renegade X-RS »

2015 Ski-Doo Renegade X-RS

Engine: Rotax 800R E-TEC liquid-cooled, 3-D R.A.V.E., direct-injected 2-stroke **HP:** 156.4*
Drive: TRA VII primary, QRS secondary **Exhaust:** Single tuned pipe, baffle muffler **Ski Stance:** 42.4 in. **Front Susp.:** RAS 2, Dual A-arms w/ KYB PRO 40 R Easy-Adjust shocks (9.5 in. travel) **Rear Susp.:** rMotion w/ KYB PRO 40 Easy-Adjust center and rear shocks (16 in. travel) **Track:** 15x137x1.5 RipSaw or 15x137x1.25 Ice Ripper XT **Fuel Tank:** 10.6 gal.
Rec. fuel: 91 octane **Dry Weight:** 480 lbs. **Wet Weight:** 599 lbs. w/ studs and carbides **Price:** \$14,699 (quick adj. RipSaw), \$15,049 (quick adj. Ice Ripper XT), \$14,299 (RipSaw), \$14,649 (Ice Ripper XT) US / \$16,249 (quick adj. RipSaw), \$16,599 (quick adj. Ice Ripper XT), \$15,849 (RipSaw), \$16,199 (Ice Ripper XT) CA **REAL WORLD STATS*:** Top Speed: 93.89mph, ¼ mile time: 13.13 sec., Seas. Avg. mpg: 12.34mpg. *AmSnow tested

Good luck, Hamburglar!

» **“It looks like Ronald McDonald’s sled.”**

I often heard comments like this about the color scheme on our Renegade X-RS demo sled. The response I gave was one of two, and it depended on how belligerent the person was. If the person had never actually seen the sled in person, I’d say, “I believe it looks VERY good on the snow, but doesn’t always photograph well.” And if they still gave me a hard time, I’d tell them, “Well you look like the Hamburglar, so good luck keeping up with this sled!”

Seriously though, we had an absolute ball talking to folks about this sled, and if nothing else, the color got people talking!

■ **Don’t hate; congratulate!**

It is easy to want to try to find things wrong with sleds from the top snowmobile manufacturer (I love rooting for the underdog too), but in this case, the Renegade X-RS deserves accolades. We gave it our “Best Crossover” sled award at the start of the season last year after testing it in pre-production form, and then after almost 2,000 miles on it, we still thought it was just as good. This was the first model year that the race-chassis X-RS was stretched from 120 inches to 137 inches, and also the first year of the RAS 2 front suspension.



We like the upgrades! But we are also long-time fans of the X-RS because of the wide reinforced running boards, reinforced rails, 4-idler wheel kit in back (versus 2, 3, or the Tri-hub design from other current OEM sleds). The forward steering post and narrower REV-XP X seat, along with the “ready stance” position of this sled, make it an aggressive rider’s dream. One thing I was surprised at was the off-trail ability of this sled in deep snow. We opted for the middle-of-the-road 1.5-inch lugged track over the more trail-oriented 1.25-inch lugged Ice Ripper XT, and we feel that the riding stance, light weight, power and durability for taking a hit from a stump or other debris hidden under the snow make this one a true contender for off-trail tree riding.

The biggest difference for Ski-Doo sleds of all trail varieties for 2015 was obviously the RAS 2 front suspension. As far as trail sleds go, you can’t get much more comfort-



Take 2!

THIS SLED absolutely ripped down the trail with the RAS 2 front end and plenty of track to play in some fresh! The beefed-up RS chassis may not be for the SUPER deep fluff, but it’s very durable and a ton of fun! –Ross Halvorson, AmSnow Associate Editor



able with a plush feeling through the bars while still feeling connected to the trail. Under hard-steering conditions through the bumps, the RAS 2 really shines. This is where the difference between the 2014 and 2015 X-RS (we had both as demo sleds) can really be felt and appreciated. As a shorter guy, I have to lean very aggressively to keep the inside ski from lifting, and that often means the handlebars knock me in my chin and helmet. Any sled that is easier to handle through aggressive corners with bumps saves my neck from at least a couple of whiplash moments.

We did not go with the quick-adjust rebound and compression adjusters on the running boards, but they were available

TUNNEL PROTECTORS NEEDED ON X-RS!

If you are going to stud, remember the X-RS DOES need tunnel protectors (Part #860200802; \$49.99). To install the protectors: **1.)** Remove the bumper. **2.)** Drill out the rivets to remove the snowflap. **3.)** Slide the new tunnel protectors through the pre-made holes behind where the snowflap was. **4.)** Reattach the snowflap with the new rivets included in the tunnel protector kit. **5.)** Reinstall bumper.

for this sled. This was a wise choice, as we knew the amount of off-trail riding and deep snow we usually ride in Canada, and the quick-adjusters on the boards impede your ability to move your feet back and forth, and up and down the boards.

■ Upgrades and suggestions

First, we added the medium Sport Performance Flared Windshield, which retails for \$124.99 (Part #860200696). Our own radar runs, for a couple years now, have proven this exact windshield to actually gain a couple miles per hour at top speed over the tiny stock one.

We also added the LinQ Premium Tunnel Bag Short (Part #860200622), which offers 10+3 Liters of rear storage. We add one of these handy bags on almost every Ski-Doo we test, and it is worth the \$144.99 price tag. For evening flair, we added the Signature LED Light

for Handlebar Air Deflectors (Part #860200981; \$119.99), which also required an adaptor (Part #860201114; \$39.99). Installing these was not a 5-minute job, but they looked great. Like the Auxiliary LED Light bar available for the front (Part #860201050; \$309.99), these guards are great at night for both seeing and being seen. They do not throw out much lighting, but these are accessories, not necessities.

We studded this sled with roughly 144 Stud Boy Power Point push-through carbide 1.625 inch studs, with a combination of single and double Super-Lite plastic backers per Stud Boy's recommended pattern. We also had a set of 7.5-inch-long Shaper carbide runners on the skis. Note: This was their "safety" studding pattern, so it was probably a little less aggressive than many high performance guys might go with. 🐾

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DEEP FOOTPRINTS

While not as long as its 174 and 163-inch brethren, the 154 Summit still has a 3-inch lug on it and can get you where

2016 Ski-Doo Summit X T3 154 »

Making deep tracks!

» When Ski-Doo launched the new 163 and 174 T3 models in 2015, people were in shock. But, once the initial public mesmerization of the big 3-inch lugs and ridiculously long 174 wore off, the next thing everyone asked was, "Where's the 154 version?"

The 154 models make up a large portion of Summit sales, so it was only a matter of time before the T3 package updates carried over to this shorter model. Not surprisingly, for model year 2016 Ski-Doo increased their offering with the T3 pack-

age to include the Summit X 154 as well as the in season Summit SP 154 and 163.

■ It's also the little things

The massive new track caught everyone's attention on the T3 models, but closer inspection reveals a ton of other updates and improvements to the machine. This sled is so much more than an older Summit with a deeper lug track. Most of the changes revolve around weight savings and lifting the chassis. The sled features a

dropped and rolled chaincase, revised geometry in the RAS2 front suspension, new skis and several other small weight-saving changes to rails, brackets, etc.

The engine, chassis and bodywork on the Summit are the same as we have come to love on previous models. We can't say enough good things about Ski-Doo's Rotax 800 E-TEC power plant. It continues to impress with a fun, exciting power curve, advanced functions like the warm-up mode, and great reliability. The combination of the refined engine, good-fitting bodywork and great build quality really give the Summit a premium feel. The whole machine is built to last, and the good resale value and demand for Summits on the used market reflects that.

Ski-Doo was kind enough to loan us a prototype Summit X T3 154 last spring, helping us gain more impressions of the machine. After spending the majority of

2016 Ski-Doo Summit X T3 154

Engine: 800cc E-TEC Liquid 2-stroke **HP:** 159.2* **Exhaust:** SC VES, single **Drive:** TRA VII primary, QRS secondary **Ski Stance:** 35.7 or 37.4 in. **Front. Susp.:** RAS 2, HPG Plus shocks (8-in. travel) **Rear Susp.:** tMotion, HPG Plus shocks (15-in. travel) **Track:** 16x154x3-in. PowderMax FlexEdge **Fuel Tank:** 10.6 gal. **Rec. Fuel:** 91 octane **Dry Weight:** 457 lbs. **Price:** \$13,399 US / \$14,699 CA
*AmSnow tested



Take 2!

WHAT I LIKE about the 154 is that it is maneuverable. Sure, it doesn't take you to the top of a totally vertical steep like an escalator on steroids (that is the 174-incher) BUT, it is still pretty darn good in POW! Plus, I think the 154 is a great sled to learn on, and it's also available with a low altitude engine calibration! – **Mark Boncher, AmSnow Editor**





the season on a 174 T3 Summit, I was well aware of the handling benefits of the T3 package, but what caught me by surprise was losing 20 inches of track on the 154! Compared to the 174, the 154 has a more lively feel and never misses an opportunity to point the skis straight towards the sky. It's a bundle of fun, but I wasn't going up the hill like I would have on a 163 or 174. The 154 fills a middle ground where it's too long to be a really short, fast 146-ish sled, but not long enough to play with the super long tracks. My feeling is that the very rider-forward Ski-Doo chassis favors a longer track that offers more traction and stability while still maintaining maneuverability. Personally, it's getting harder to find a reason to ride a 154.

Our test unit was a sharp sunburst yellow and matte black color, complete with matching yellow tunnel and skis. The yellow and matte black is a classy combination and in tune with Ski-Doo's heritage. The Summit X T3 is also available in an all-black color scheme and, true to Ski-Doo's recent trend of offering a completely wild color option, there is the lava red, matte black and green accented version.

The Summit XM chassis has always responded really well to rider inputs, and it's extremely easy to initiate a turn or a sidehill (in some cases too easy, to the point that the sled feels a wee bit twitchy). The T3 models are definitely more stable than the models they replace. This is especially true in the case of the 163 and 174 track lengths. However, on the 154 model we argued amongst ourselves that any steps forward in stability, with the handling components of the T3 package, are almost cancelled out by the added traction coming from the big track lug. At the end of the day, track length all comes down to individual preference. With Ski-Doo now offering three different track lengths, there are plenty of options. You really can't go wrong with any of them!

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COVER
STORY

GRADE-A SLEDS FOR YOUR A-GAME!

BEST in TRAIL CLASS

BY ROSS HALVORSON

Ryan Thompson - RLT Photos

“High School Harry” was what my dad called him. You know that guy in high school who was good-looking, athletic, smart, loved by the ladies and

liked by everyone else? I am pretty sure that wasn't me, and it is ok if it wasn't you either!

Thankfully, the snowmobile manufacturers know how to help us feel even cooler than High School Harry. The sleds we compare here give you 100% self-confi-

dence to handle all the trail can throw at you.

If you want to ride top-tier 800cc trail sleds, these are what you're looking for. The Arctic Cat ZR 8000 RR, the Ski-Doo MXZ X-RS and the Polaris 800 Rush Pro-X are a formidable trio for any

trail rider to throw a leg over. They combine the strongest 800cc engines, most capable suspension packages and plenty of extras.

What does each machine bring to the dance? Here's what we learned at test-school!

Passing grades

Each sled sports an 800cc power plant that passes the dyno-test with flying colors. Arctic Cat's

Polaris 800 Rush Pro-X



Painted rails, tunnels and spindles (Oh, my!). Polaris spring buyers had a buffet of options when picking out their Pro-X or Pro-S rides!





Ski-Doo MXZ X-RS

A highly adjustable rMotion rear suspension means high comfort and a high fun factor on the X-RS. It adds even more fine tuning for riders with the new Pilot TS adjustable ski.

794cc liquid twin built by Suzuki has stood the test of time. It's been used by Arctic Cat in some form for nearly a decade. That's an eternity in snowmobile engine years! And it still has the same characteristics we used to describe it when it first debuted on the 2007 F8. It's no slouch, and it's easy to handle.

A smooth operator down low, the 150-plus horses under the ZR 8000's hood are sneaky quick. That immediate neck snap that chiropractors love is tame enough on this one, and it really gets its legs in the

mid-range. It's got plenty of speed up top too. It only falls a little short, in our eyes, on the efficiency side. It drinks more oil and gas than the others here, but it's by no means a gas guzzler either. It gets a solid "A-minus/B-plus" in my fuel-efficiency grade book.

The liquid-cooled 800cc E-TEC from Ski-Doo is another well-established engine. It's quick, clean and efficient, and that reputation won't change in the 2016 MXZ X-RS. The 800R E-TEC has plenty of punch off the line and pulls hard through



AmSnow Side-by-Side Sled Specs

SLED	2016 Arctic Cat ZR8000 RR	2016 Polaris 800 Rush Pro-X	2016 Ski-Doo MXZ X-RS 800R E-TEC
ENGINE	794cc liquid twin 2-stroke batteryless EFI	795cc H.O. liquid Liberty Cleanfire 2-stroke	Rotax E-TEC 800R liquid, 3-D R.A.V.E., direct-injected 2-stroke
HP	153.7*	145.3*	156.4*
DRIVE	TEAM Rapid Response primary, TEAM Rapid Reaction BOSS secondary	P85 primary, TEAM LWT secondary	TRA VII primary, QRS secondary
EXHAUST	APV w/ tuned pipe, pipe sensor, stainless steel muffler	Single, SC VES	Single tuned pipe, baffle muffler
SKI STANCE	42-43 in. adj.	42.5 in.	42.4 in.
FRONT SUSP.	ARS w/ FOX Float Evol RC shocks, sway bar (10 in. travel)	AXYS w/ Walker Evans piggyback comp. adj. shocks (9.9 in. travel)	RAS 2 w/ KYB Pro 40 R Easy-Adjust shocks (9.5 in. travel)
REAR SUSP.	Slide-Action w/ tri-hub rear axle, coupling blocks, torque-sensing link rear arm, adj. torsion springs, FOX 1.5 ZERO C center shock, FOX 2.0 ZERO RC rear shocks (13.5 in. travel)	PRO-XC w/ Walker Evans piggyback comp. adj. center shock, Walker Evans comp. adj. piggyback needle rear shocks (13.6 in. travel)	rMotion w/ KYB Pro 40 Easy-Adjust shocks (15.5 in. travel)
TRACK	15x129x1.25 RipSaw	15x120x1.75 Backcountry X	15x129x1.25 RipSaw or 15x129x1.25 Ice Ripper XT
FUEL: TANK/OCT.	11.7 gal. / 91 octane	12 gal. / 91 octane	10.6 gal. / 91 octane
DRY WEIGHT	NA	435 lbs.	470 lbs.
PRICE	\$14,399 US / \$16,499 CA (No ES)	\$13,599 US / \$15,099 CA	\$15,149 US / \$16,799 CA
PLUSES	Improved clutching and shock calibration	Color options, handles big hits with ease	Wide power band, razor sharp in corners

the middle of the power band. And just when you think you're running out of steam, it has that little extra left. It's a great feeling as you're creeping up on your buddy across a lake. That extra juice, plus the slightly better efficiencies than the Cat 800, earn the E-TEC an almost perfect "A" grade.

Polaris features a 795cc twin Liberty high-output engine that enters its sophomore season with impressive momentum. In an obvious effort to match or better Ski-Doo's E-TEC, Polaris' 800 H.O. motor is faster, cleaner and leaner than its predecessor. Equally quick off the line as the E-TEC, the Liberty engine takes charge from the first throttle twitch and doesn't let up.

It's got a little more rumble from the exhaust than the Ski-Doo, but I like that! And its light weight makes it as much of a blast through tight trails as lifting the skis across an open field. It uses the least amount of oil and is very competitive on fuel consumption when compared to the other two here. The engine's liquid bypass is another nice feature, allowing the sled to warm up a little quicker. The combo of all those things earns the Liberty 800 H.O. my personal "A-plus" grade.

Jock thoughts

Each of these three rides sports a performance-minded suspension setup with adjustability, great anti-bottoming and

comfort to boot. They're built to take your best shot and handle hard corners as well as hard landings. They are the best players on their respective trail teams.

There's no question that the Ski-Doo suspension will perform on the trail, and in 2016 the X-RS gets the new, longer rMotion 129-inch skid. This paired with the RAS 2 (front) suspension turned out to be quite

the skill set. Like the kid on the basketball team who can post up AND shoot the three, there isn't a place on the trail where the X-RS is uncomfortable.

KYB Pro 40 R Easy-Adjust shocks go all the way around on the X-RS. They're easy to adjust (as the name implies) and can turn almost any trail terrain into a comfortable ride. I'd recommend adding the rMotion Quick Adjust System and Pilot TS skis with adjustable carbide. It's a few extra dollars, but it gives you the most versatility out of any sled here. It's almost impossible for a

rider not to find this sled's "sweet spot." The X-RS suspension and shock setup earns an "A-plus" grade from me.

The Polaris Pro-X suspension is built to give any trail a beatdown! We've sent more trails back to the locker room with bruised egos than we can count on the Pro-X! This AXYS

platform with Pro-XC rear suspension equipped with Walker Evans shocks can take a blow from the terrain without blowing a rider's gasket. Plus, they're very easily adjusted.

We thought the Pro-X shock package was valved a little too stiff last season, and although there's no official word from Polaris, AmSnow testers could feel a bit more forgiveness on our early demo rides.



THE 800R E-TEC HAS PLENTY OF PUNCH OFF THE LINE AND PULLS HARD THROUGH THE MIDDLE OF THE POWER BAND.

The 2016 Pro-X setup seems plusher, and I think more people will find the X a good fit in 2016. Still, the 120-inch track length doesn't quite soak up the chatter like the 129-inch skids of the other two here.

The Pro-X also has a higher ride height thanks to 1.5-inch-longer shocks. That results in more suspension travel, but what helps this sled destroy the big bumps becomes a slight hindrance in the corners.



Arctic Cat ZR 8000 RR

The only sled in this comparison available in-season, the RR from Cat adds improved durability in its drive components and more cushion on the trail.

The improved plushness of the shocks has helped, but there's still a tippy feeling in hard, tight cornering maneuvers that neither the Ski-Doo nor Arctic Cat have. My overall suspension grade here is a "B-plus."

Arctic Cat's ProCross chassis with Slide-Action rear suspension and Arctic Race Suspension (ARS) in front has proven it's a winner, at least in the hands of Tucker Hibbert. It will be a winning setup for plenty of trail riders as well in 2016.

The ZR 8000 RR sports a top-notch shock package with FOX Float Evol RC shocks up front. The back end is cushioned with a FOX 1.5 ZERO C (center) and FOX 2.0 ZERO RC (rear). It's certainly better than last season, as we felt the previous shock package was too stiff for most consumers, similar to

Polaris' Pro-X. Cat did confirm that they've dialed these back some for a more compliant ride in a wider variety of terrain.

Adjusting these shocks takes a little know-how, but the range of adjustment is impressive. FOX's Dual Speed Compression technology allows you to adjust both high- and low-speed shock compression with the turn of a dial. Rebound damping can also be easily adjusted; however, both are difficult with gloves on.

More than anything, the shock improvements put this sled in the upper tier of trail sleds. Flatter cornering, more compliance through small bumps and a softer rebound on

harsh landings earn the RR an "A" grade.

Look of a winner

Among the three sleds here, there's an array of BNG that would rival any bag of Skittles. Cat's bright green-and-black color combo with white accents is nicely freshened up for 2016. Ski-

Doo's X-RS features a cool new color combo of black, bright yellow and silver (so the Ronald McDonald naysayers must have gotten their way). Polaris crashes this party with nine primary color options, and they proliferate further with painted rail and tunnel options as well.

All three wear the tiny "sport" windshield, which does little for warmth, but at least the Polaris and Ski-Doo come with handguards for a little more protection. Storage is also minimal, as it almost always is on the top high-performance

**THE CLUTCHING
WILL PAY
DIVIDENDS FOR
CAT. IT SEEMS
TO HAVE
WOKEN UP THE
800 MOTOR!**

trail sleds, but digging a little deeper shows some pretty handsome features on these rigs.

The Arctic Cat ZR 8000 RR brings a handful of niceties any rider will find convenient. The deluxe digital/analog display is easy to read and operate. The standard 12-volt outlet is a bonus for keeping your devices charged.

There are also upgrades under the plastic as well. For 2016, all ZR sleds get a BorgWarner chain and sprocket. This should be especially valuable with this sled, as owners will certainly put a beating on it, and the new BorgWarner parts are a durability upgrade. Similarly, the new TEAM Industry clutches used by Cat in these sleds should offer more durability and adjustability for high performance folks.

The clutching in particular will pay dividends for Cat. It seems to have woken up the 800 motor even more! Overall, I'll give Arctic Cat a "B-plus" for the intangibles.

The Polaris Rush Pro-X has all kinds of good vibes in this department. As if selecting your color wasn't enough, you can also select your track (three options), windshield (three options), display (two options) and more. Some come with an additional price tag, but others (like the windshield) are available at no extra charge. It's getting closer to the car-buying experience, which some like, but if I were to add all the extras I'd want, I'm looking at close to a \$15K sled. Yikes!

Adding the 1.75 Backcountry X track gives you a lot of grip off the line. It almost makes up for the shorter 120-inch length, but not quite. The stock LED lights are an advantage over the competition, and I really like the left-hand controls as well. They're easy to access with your thumb, and the distinct colors make each button easy to identify. I give the Pro-X a "B-plus" in the looks-and-accessories department.

Ski-Doo's MXZ X-RS is a highly awarded sled by *AmSnow*, and the only real "add-on" you could have added to our test sled was the rMotion Quick Adjust feature. It's well worth the extra money in our opinion. Now they offer the Pilot TS adjustable ski as well. You can add it in combination with the Quick Adjust, or add each piece separately. Also new this year is a choice between a RipSaw or Ice Ripper XT pre-studded track.

We were pretty impressed with the capabilities of the Ice Ripper track in our demo rides. Those rides took place on some downright nasty ice thanks to low-snow conditions. I felt almost as confident with that track as I do using aftermarket studs. It might be worth the added



expense to forgo the time and back pain of installing aftermarket studs. The X-RS also earns a "B-plus" rating here.

Who rules the school?

Each sled in this comparo is close to earning that perfect 4.0 GPA. Truthfully, this is one of those comparisons that's almost a toss-up. Say what you will about wanting to "please advertisers," but if you want my honest opinion, here's how I see it. To me, the Polaris is the perfect ditch-

banger sled, but it could benefit from a longer track. It's got the best set of add-on options to pick from. I'm a big fan of the 800 H.O. and the light weight. For a day of whooped out trails, I know this sled will get the job done.

Ski-Doo's X-RS and Cat's RR are probably more well-rounded sleds, and they supply the big bumps. They also gain ground when it comes to cornering and smoothing out miles of stutter-bumps. The 129-inch tracks are an advantage

over the Polaris in that regard. Cat's Slide-Action rear suspension stays planted during hard acceleration. But the RAS 2 front end on the X-RS makes it the best all-around handling sled of the group. If I had to pick one that would suit me best on the majority of my rides, I'd go with the X-RS.

Regardless of what suits you best, you better have a good excuse for the Mrs. (or Mr.), because you're going to drop some serious coin on any of these three. In return, you can expect serious fun! 🏂



Yamaha Apex LE Brings the Muscle

If you are an 800cc-plus lover of power and want that surge every time you grab a handful of throttle, Yamaha's Apex LE is worth investigating. The 998cc's generated by the 4-cylinder Genesis is the stuff performance junkies crave. Top it off with Yamaha's reputation for reliability and a few nice trail amenities, and you've got yourself one fine trail performance sled.

There are a few new items to note on this one, like the SingleShot 129 rear suspension with FOX Float 3 XV rear shock. It's designed to improve handling in rough terrain, and by all accounts it has met that goal. You won't be sending your spine through your skull, as the XV chamber adds extra air volume to the shock for harsh landings. The new shock is fully adjustable for rider preference, and more easily accessible than the shocks on previous versions of this sled.

Apex LE buyers also get Yamaha's performance damper kit straight from the factory. We rode this nice little bolt-on for the first time two winters ago. The biggest difference a rider will notice is how the damper kit quiets the handlebars. It seems subtle, but when you can directly compare it to a sled that doesn't have the kit, as we were able to do, it's really a nice upgrade that makes for more relaxed handling.

Adding to the handling is Yamaha's electric power steering that adjusts to the speed of the sled. The benefit is twofold when you consider the slightly higher steering effort a dual-keel ski can sometimes add.

We do gripe about low seating positions once in a while, but it gives the Apex LE a bit of an Indy-car feel as you race from turn to turn at warp speed!

Arctic Cat XF 7000 CrossTour

It doesn't seem like this sled has a 146-inch track because it is so smooth in any size bumps and corners well. Plus it has that great Yamaha 4-stroke motor sound that is unique to this 3-cylinder.





BIG Big miles, big sleds, FUN

ARCTIC CAT CROSSTOUR AND YAMAHA S-TX STRETCH IT OUT

BY MARK BONCHER • Ryan Thompson - RLT Photos

Everyone has enjoyed one or two solitary rides among the pines. Even the most racy weekend warrior has slowed their roll to bask in silent lucidity.

As a husband and father, I try to remind myself that I don't have to feel guilty about not taking a passenger on every touring ride. Sometimes you just want to get out there, with your helmet silencing everything but the motor, and put some distance between you and the stress of the real world, enjoying little-traveled trails, ALONE, and becoming one with your sled. That's



+ Pluses

Great ergonomics, good gauges, heated seat, excellent storage, strong engine and handling, perfect-size shield, easy-to-see mirrors, easily converts from dual to single rider.

smooths out bumps even more than the 141, and along with the Slide-Action rear suspension, it makes this sled feel like it's on autopilot down the trail. This sled also has Cat's "quiet track" tech which reduces track noise, one of the loudest noise variables on a snowmobile.

Two of the great things we loved about the Pantera last year were the "easy adapt" backseat (an accessory that can be added for kids or other passenger) and the 4.3-gallon auxiliary fuel tank. The fuel tank is inside the rear storage compartment, and this is new for the CrossTour this year (but same as Pantera from last year). The range on this sled could be upwards of 180 miles under the right conditions... a staggering amount of miles between fill-ups! Finally, the CrossTour

what these two machines from Arctic Cat and Yamaha (or whatever combo of the two names you want to come up with) will provide. P.S. Our personal favorite name combo is "Cataha."

We spent plenty of miles determining what we liked and disliked about the 2016 Arctic Cat XF 7000 CrossTour and the 2016 Yamaha SR Viper S-TX 146 DX – basically two versions of the same sled. Here's what you need to know.

you all the versatility of the previous storage rack.

Probably the most noticeable difference is that the 2016 CrossTour comes in the ProTour chassis and is no longer available in the more aggressive ProCross trail chassis. The ProTour's running boards have a little less angle to them (more relaxed for a more touring type feel), but the sled also now comes in a 146-inch track length. That is up from

the 141-inch length of the 2015 ProCross model. The new longer track is the same as the Pantera from last year, and basically, that's what this sled is ... a 1-up version of the 2015 Pantera. And we are totally ok with that! The 146



CrossTour has changed

Compared to last year's CrossTour, there are subtle differences – positive and negative, for 2016. The tunnel's semi-rigid storage bag is now gone, and so is the metal rack behind it. These have been replaced by a long, plastic hard-panel storage case that runs the length of the exposed top of the tunnel, from seat to tail-light. The monstrous storage case is much bigger than the old storage bag, and it also has a belt holder inside. However, this hard case does not allow



Slide-Action Suspension

AmSnow Side-by-Side Sled Specs

SLED	2016 Arctic Cat XF 7000 CrossTour	2016 Yamaha SR Viper S-TX 146 DX
ENGINE	1049cc liquid 4-stroke 3-cylinder w/ 41mm fuel injection	1049cc liquid 4-stroke 3-cylinder w/ 41mm fuel injection
HP	135*	135*
DRIVE	TEAM Rapid Response primary, TEAM Rapid Reaction BOSS secondary	YVXC, variable ratio, electronic shift reverse, magnesium chaincase and cover
EXHAUST	3-1 stainless steel pipe w/ stainless steel muffler	3-1 stainless steel pipe w/ stainless steel muffler
SKI STANCE	42-43 in. adj.	42-43 in. adj.
FRONT SUSP.	ARS w/Arctic Cat (IFP) gas shocks, sway bar (10 in. travel)	SRV w/ aluminum rebuildable HPG shocks, sway bar (10 in. travel)
REAR SUSP.	Slide-Action w/coupling blocks, torque-sensing link, adj. torsion springs, Arctic Cat (IFP) gas shocks (13.5 in. travel), fiberglass overload springs	Dual shock SR 146 w/ coupling blocks, adj. torsion springs, aluminum HPG shocks (14.5 in. travel)
TRACK	15x146x1.25 RipSaw, 2.86-in. pitch	15x146x1.25 RipSaw II, 2.86-in. pitch
FUEL: TANK/OCT.	15 gal. / 87 octane	10 gal. + 4.6 gal. reserve
DRY WEIGHT	NA	NA
PRICE	\$13,599 US / \$15,449 CA	\$13,599 US / \$15,649 CA



Yamaha SR Viper S-TX 146 DX

Touring isn't just for grandparents anymore with the new 146 DX. This is the F150 pickup truck of Yamaha's lineup: tough, comfortable, can carry lots, and handles like a much smaller sled.



is **ONLY** available in the 7000 Yamaha 4-stroke engine. This 3-cylinder, fuel-injected Genesis motor just won't die, and it continues to be the backbone of Yamaha's lineup as well as a big piece of Cat's 4-stroke program. Gone are the 9000, 8000 and 6000 CrossTour models, which cleans up Arctic Cat's lineup of "1 MILLION" sleds.

One final big change for this sled was the price; it went up \$300 versus last year. However, you are literally getting a lot more sled as well as tons of great features.

CrossTour pros & cons
It's easy to fall in love with this

sled on a -20-degree morning, when all your "Ricky Racer" buddies are cursing their tiny string-bikini windshields. While they are yanking their shoulders out of socket pulling on their recoil ropes, you simply turn the key, turn on your heated seat and turn up the handlebar warmers. After a little warm up and a few minutes riding, everyone else in the group is shaking their frostbitten hands trying to get them warm. But you are toasty warm behind the nice 11-inch, mid-height windshield. This is not a dream, but our actual personal experience while testing this sled. This and the push-button reverse are big reasons

we like this sled!

However, there is always room for improvement. This is a touring sled, so we believe the heated-visor plug-ins should have been standard. We have also noticed that the warm-up time (time it takes for the low engine temp light to turn off) continues to be longer than we think it should be. Finally, we believe all sleds in the ProCross or ProTour chassis should have the new "tunnel flares" standard. These decrease the amount of snow that gets



thrown up into the driver's back and side. This is a known annoyance for Cat's ProCross and ProTour chassis; often-times you will be going down the trail and snowballs from the track will start flying by in your periphery or hitting you in the back.

The Yamaha IS different!

Are these two models the same sled? Yes and no. If you look at the spec sheets, it is hard to decipher. The Cat says



+ Pluses

Tight handling for a 146-inch track, excellent storage, reliable engine, cool retro "Smokey and the Bandit" or early Phazer black and gold decals, easily converts from dual to single rider sled.

it has a 15-gallon fuel tank (we are assuming that is a 10.7-gallon tank plus the 4.3 reserve tank), and the Yamaha SR Viper S-TX 146 DX says it has a 10-gallon tank plus a 4.6-gallon reserve tank. We are sure this is just a matter of Cat and Yamaha not being on the same reporting page, but it is interesting to see little differences in reporting stats from the OEMs. Seeing these discrepancies just goes to show how difficult it can be for consumers to truly compare apples to apples. This is a big reason we do our own wet weight, dyno and acceleration tests each year with our demo sleds.

Anyway, a little-talked-about aspect of the Yamaha/Cat connection is that Yamaha was able to ditch its incredibly old and annoying mechanical lever reverse system. The new Viper S-TX is a far better sled with the push-button reverse feature alone, and it possibly would not have happened this soon without the supply agreement with Cat.

Yamaha calls the rear suspension SR 146 and the front SRV, but they're basically the Cat Slide-Action rear suspension and Arctic Race front suspension. From our testing, the Yamaha's aluminum rebuildable HPG shocks seem to have a slightly softer calibration, and we were told that Yamaha and Cat suspension calibrations will be slightly different depending on how the engineers differ on their own opinions of the best setup come production time.

The biggest difference with



the Yamaha is in the clutching. We've said this before, but Yamaha has clutching for this motor dialed in very well. We feel that

the Yamaha YVXC, variable-ratio transmission is smoother and upshifts better.

Cat went to the TEAM Rapid Response (primary) and TEAM Rapid Reaction BOSS (secondary) clutching system on many of their sleds this year, including the CrossTour. This system replaced the Arctic 6 post (rpm sensing) primary and 10.75-in. diameter Arctic (roller cam) secondary clutch system. We don't have as much time on the new clutches as we would like, but there are certain com-

pany efficiencies to be had by Cat partnering with TEAM, which is right down the road from them in Minnesota. We still think the Yamaha engagement is smoothest, though.

The spec sheets will also tell you that there is a difference between the Cat CrossTour and its sibling Yamaha S-TX 146 in rear travel. The Yamaha boasts 14.5 inches versus 13.5 inches on the Cat. This may just be a measuring discrepancy, as we have taken a hard look at both of these sleds and believe travel to be close to identical.

Finally, the Yamaha seat is

custom-stitched and feels more comfortable than the CrossTour seat.

S-TX 146 DX pros & cons

On both of these sleds, the reserve fuel tank drains first, which is great for two reasons: 1.) The balance of the sled stays more neutral. 2.) You have a better likelihood of always using good gas that hasn't been sitting for very long. Here is an example: Your typical ride is 80 miles long, and you use 7 gallons of gas. It is conceivable that if the front tank drained first, the gas in the rear tank could sit for an extended period of time. BUT, since the rear tank drains first, and you most likely will go through more than 4.3 gallons (or 4.6 gallons, whichever is actually right), then you will top off both tanks with fresh gas when you fill up ... instead of possibly leaving stale gas in the rear tank.

The color scheme of the S-TX 146 DX harks back to the late 1980s Phazer gold colors. That's a good thing! It's not gaudy or super bright, but subtle and cool.

The windshield might be overkill. This is a scenario where looks definitely took a backseat to warmth and function. It is VERY warm and blocks the wind well, but the slightly smaller CrossTour shield is much more appealing and blocks 95% of the wind that the Yamaha one does. 🐾



NOT A NEW IDEA, BUT COOL!

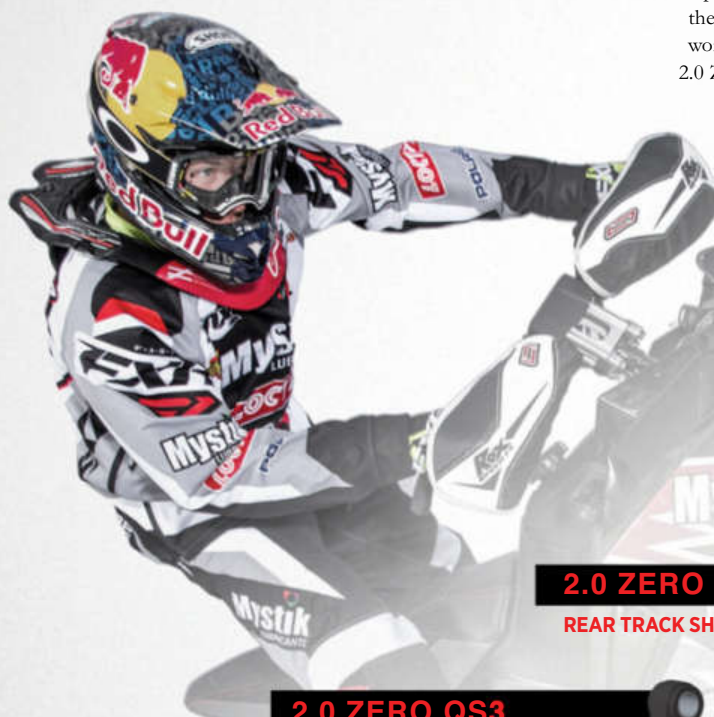
Many of us vintage lovers are aware that having an auxiliary fuel tank in the back is not a new idea, particularly on Arctic Cat sleds. Cat was famous, or infamous, for this with sleds like the late 1960s/early 1970s Panther and the mid-1970s Pantera. Check out this photo of a 1976 Cross Country Cat from our Vintage Editor Les Pinz's collection. Early Panthers even had side-mounted fuel tanks available. But then again, getting only 4-8 mpg was assumed back then! Also, putting on 100 miles in a day was considered a superhuman feat!





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MTN FUN

STORY AND PHOTOS BY STEPHEN W CLARK

The very nature of 4-stroke engines makes them more expensive to develop and manufacture. Complexity comes from added components in the valve train and the use of exotic materials and manufacturing techniques to try to reduce the weight of an engine that simply has more to it than a 2-stroke.

In the grand scheme of things, our snowmobile industry is really small and unfortunately doesn't have the sales volume to justify the massive spending it takes to develop technology exclusively for the snow.

So it's no surprise that the only two 4-stroke engines available in a mountain snowmobile are built by the big Japanese powerhouses of Yamaha and Suzuki, using numerous parts that cross over from other powersport vehicle engines.

Just the two of us

Arctic Cat and Yamaha are the only two manufacturers who have 4-stroke mountain sleds, and their supply agreement is in full swing. Both manufacturers are using Cat's ProClimb, the chassis in the Yamaha SR Viper M-TX models, and Arctic Cat M 7000 and M 9000 models. Essentially, there is one chassis and two engine choices. If you buy a Cat, you can get their Suzuki-built 1100cc turbocharged

twin cylinder engine (their 9000 motor) or you can get the Yamaha-built, naturally aspirated 1050cc triple (labelled 7000).

Yamaha offers just their 1050cc triple Genesis motor in their SR Viper, and all Yamaha sleds come from the factory natural-

ly aspirated. However, many of these Yamahas end up being turbocharged via the dealer before they are delivered to the customer. There is an agreement with

**WEST
REPORT**

NEW FRONT END

Completely redesigned front suspension, spindles and skis make throwing the M sleds onto one ski and sidehilling easier than before.





BIG POWER! The dealer-installed MPI turbo kit turns the SR Viper from mild to wild! Ripping up to altitude or down to the flats, this sled has guts!

the turbo company MPI that allows their turbo kit to enjoy a “Yamaha OEM approved” status, and many are sold through the Yamaha accessories department. It is especially heavily incentivized during the spring buying season.

The good news for buyers in the mountain segment is that this one chassis received a pile of updates for 2016. The front end of the machine has been completely redesigned with new spindles, a-arms and skis. The result is a narrower 34.5-38.5-inch ski stance, a 2.4-pound



weight reduction and a significant improvement in sidehill handling. In addition to the front end, there are small changes to the rear suspension to make it function better.

While many parts cross over between the Arctic Cat and Yamaha models, there are a few unique components that differentiate them. The Yamaha has different clutches and slightly different-shaped plastics, but for all intents and purposes, they are nearly the same thing.

Navigating the vast number of models and different configurations offered between Yamaha and Arctic Cat is no easy task. Multiple track lengths are available, but the engine choice is really the biggest factor, and the major debate in that decision is whether to ride a turbo sled or a naturally aspirated machine. Everyone loves the power of a turbo and thinks they ABSOLUTELY NEED a turbo, but the reality is not every rider belongs on a turbo. It is really important to note that the performance difference between a turbo and non-turbo is around 60 hp, which is a huge difference. To put it bluntly, a naturally

aspirated 4-stroke is not the kind of sled you are going to use to go climb glacial chutes in Revelstoke, British Columbia.

Pros and cons of different 4-strokes

Each of the powerplants has its own strengths and weaknesses. The stock

Yamaha (or 7000) engine only produces around 125-130 hp, but it will run forever and is the most affordable. The Cat Suzuki 9000 engine makes good power, but it isn't quite as refined as the Yamaha engine, yet it does offer the reliability of a factory turbo. It's expensive though, and the accessory turbo version of the Yamaha actually makes a little more power. In our experience, the factory-approved turbo kit from Yamaha has the most scope for tuning, but it's truly an aftermarket turbo, so it's not quite as easy as the other two options. Plus, it's the most expensive option.

Picking your powerplant will also somewhat dictate your choice of track length. Longer tracks are obviously more effective on the big horsepower machines, and in the case of the Arctic Cat 9000, the only option is a 162-inch track in either a 2.6-

SR Viper

GOOD

- Sidehill handling improvements
- Big horsepower turbo kit available
- No adding injection oil.

BAD

- Not as much innovation as we see from other OEMs in the mtns
- Still heavier than we would like



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M 7000 & M 9000

GOOD

- Sidehill handling improvements
- Twin (9000) and triple (7000) cylinder options
- Factory turbo power (9000)
- No adding injection oil

BAD

- M 9000 is pretty darn expensive
- Still on heavy side of the hill



inch lug with the Sno Pro or a 3.0-inch lug on the Limited. Yamaha, on the other hand, offers more options, ranging from the 141x2.25-inch PowerClaw on the SR Viper M-TX 141 SE all the way up to the 162x3.0-inch on the SR Viper M-TX 162 LE, and just about every other conceivable track length in between. The real wildcard sled in this category is the 141 Viper. We rode this sled with the MPI turbo, and you would be hard-pressed to find a sled that will go faster, do as many wheelies and generally be as much fun to ride.

The 4-stroke end of the mountain segment is becoming increasingly stagnant

these days, and it would appear the hints at early innovation we saw from Polaris and Ski-Doo in the 4-stroke mountain segment are over. However, on the Yamaha side of the 4-stroke coin, the motorcycle business is on the gas, launching multiple new models per year and bustling with class-leading technology. Unfortunately, it would seem the snowmobile division has been cut off to some extent and stuck with older technology. The majority of the advancements seem to be coming from Yamaha's supply partners in Thief River Falls. We realize it's all about dollars, but one can only hope things will change so we

can see Yamaha return to a position at the front of the snowmobile market, where it ruled in the late '90s and early '00s.

Buyers in the market for a 4-stroke mountain sled have a lot of options available to them between Yamaha and Arctic Cat. Both have their own boost options, and the Cat M 7000 Sno Pro and Yamaha SR Viper M-TX SE models are typically priced the same or within a few hundred dollars of each other. There are lots of options and good machines for the right buyer. Just make sure you do your research and purchase the right machine for what you are doing. 🐾

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Mix it up!

STEADY FUEL MIXTURE IN UNSTEADY CONDITIONS

» **Why talk about carburetors today?** Especially when fuel injection makes the perfect mixture thanks to handy sensors and ECUs! Well, even though carburetors are as old as the internal combustion engine, that doesn't mean they're not being improved. Their relatively simple nature makes carbs an ideal choice for many racers and DIY trail guys.

We all jumped on the fuel injection bandwagon back in the late 1980s. My shop (Aaen Performance) offered programmable systems of its own, but some average tuners found them too complicated, and they had several shortcomings. First, as the RPM went over 10,000, most ECU-operated fuel injectors could not deliver enough fuel because the opening time became too short, and the actual power gain over carburetors was only about 3%. Carbs, on the other hand, have no RPM limitations. You don't need specific computers or programming knowledge to tune them. A few tools, an assortment of jets and calibration needles get you in business.

These and other reasons are why many racers and riders striving for maximum performance still prefer to work on the relatively simple carburetor.



TUNING SYSTEMS
The Intelajet (top left and right) and the Tempa Flow are two products that simplify tuning and make on-the-fly carb tuning possible.



■ Work on your jet settings

The key word here is "work," because as temperature and atmospheric pressure changes (think altitude), you have to adjust the fuel mixture accordingly for maximum engine performance. This is done by changing main jets, pilot jets, needle jets and calibration needles. A regular Mikuni carb usually has four tuning circuits. The choke chamber is the first. It richens up the mixture so you get enough fuel to evaporate during cold

starts, especially in the winter. Once the engine is running, the idle through ¼-throttle-applied is controlled by the pilot jet and airscrew setting.

The slide cutout opening has an effect on acceleration, as does the needle taper and the needle jet in the midrange up to ¾-throttle. From ½-throttle up, the main jet circuit takes over. The mixture of air and fuel for best performance varies from 11:1 to 14:1 by weight of air to fuel. If conditions were always the same, you could get away with one calibration setup, but atmospheric conditions vary quite a bit in the winter. Temperature can vary from -40 F to 40 F. As air cools, its density increases, and as a result you need to feed more fuel into your motor to obtain the correct fuel mix. Changes usually are in the range of 10 numbers per 20 degrees Fahrenheit. In other words, if you drop 40 degrees F, you may have to richen up from a size 400 main jet to a 420 main jet.

Likewise, as you go up in altitude the rule is 10 numbers per 2,000 ft. of altitude. The air gets thinner as altitude goes up. So, if you normally ride at 1,000 ft. (Midwest) and then go to the mountains and ride at 9,000 ft., you need to go down four sizes from a 400 to a 360 main jet.

■ Intro of the float bowl carb

During World War II, aircraft carburetors had triple jet circuits. One circuit controlled the baseline fuel calibration. A second circuit was controlled by a dia-



THE SWEET TUNE OF VICTORY Ice oval racers, among others, know the importance of a properly tuned carb on race day. Changing temps can play a big role in your fuel mixture requirements.

phragm that leaned out the mixture as the airplane moved up in altitude. A third circuit was controlled by a bimetallic bridge that would richen up the mixture when the temperature dropped. Early snowmobiles, such as the Scorpions and several Polaris models, had Tillotson diaphragm carbs with adjustable high- and low-end circuits. A needle valve for each circuit would lean or richen the mixture as you turned it in or out. The result was a lot of burned pistons as tuners "leaned it out" for more performance. Since it ran faster the leaner you made it, eventually you would seize the piston.

To prevent owners from tuning their sleds into scrap, manufacturers adopted the Mikuni float bowl carb with fixed jet calibration. This made it harder to change the factory settings, because you had to dismantle the carb to change the jets. Manufacturers were happy because it drastically reduced warranty claims. Factory carbs were usually set so the engine ran safely at temps as low as -40 F, which made it run rich at more pleasant conditions (around 20 F).

Tuners and some dealers, therefore, usually dropped the factory setting by 20 numbers, because only a very few hard cases actually went out riding when it reached -40 F. This resulted in better all-around performance in normal riding conditions.

■ Tuning products make it easy

Ever since the 1970s, when the Mikuni fixed jet carb took over the market, snowmobile tuners and inventors have tried to make it easier to change jets, or even make the carb self-adjusting like WWII airplane carbs. A number of systems are now available that make it easier to tune carbs.

The first product was offered by Mikuni and was called a Power Jet. This system consists of a separate main jet circuit that mounts on top of the intake bell and adds fuel at wide-open throttle (WOT). Since it is mounted on top of the intake bell, it is easy to get to when changing jets. The carb can stay in place, and there is no need to open the float bowl. You still have to change the Jet, so the next step was to make it available with a needle adjustment.

An improvement on this was the Dial-A-Jet system. This works by sucking fuel into a mixing chamber on top of the intake bell. The top is adjustable with four bleed holes of different sizes. By turning the top with a screwdriver, a differ-



GET MORE POWER! This 44 Mikuni carb has an additional Power Jet circuit installed. As shown, the top cap can be removed so a tuner can get to, and change, the Power Jet.

CHECK 'EM OUT!

Want to learn more about these available carb tuning products?

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ent bleed hole can be used, and the mixture then varies by close to one main jet per bleed hole size. This system works a little better than a straight power jet, which drops raw fuel into the carb. With the Dial-A-Jet, the fuel and air is mixed in the top chamber, and finely atomized fuel enters the carb bell.

Lon Pedersen, owner of Thunder Products (www.thunderproducts.com), offers both the adjustable Power Jet and the Dial-A-Jet system, and has brought an even easier system called IntelaJet to the market. IntelaJet does away with the dial on top of the Dial-A-Jet and moves the bleed function into a handlebar-mounted, needle-controlled dial. Instead

of stopping and opening the hood to change the setting on the Dial-A-Jet, you can now do it on the fly. By combining the IntelaJet with an EGT gauge, you can monitor the mixture according to exhaust gas temperature, and always

dial in the best mixture.

This is handy not only for atmospheric changes, but sometimes gasoline quality may vary in more remote locations, and the mixture may have to be richened up to prevent detonation.

A semi-similar system is the Holtzman Vari-Flow. In the Holtzman system, the flow is controlled by the pressure in the float bowl. By introducing a slight vacuum in the float bowl, the mixture is leaned out. This is done by installing a Venturi tube in the inlet throat. This vacuum line is then controlled by a dial that adds bleed air from the atmosphere to control the vacuum in the bowl.

You must recalibrate to richen the main jet, since you are not adding fuel but always reducing fuel when vacuum is increased. There is a calibrated minimum bleed hole that prevents it from going too lean. The Vari-Flow unit can also be mounted on the handlebars or the dash. This way, fuel flow can also be adjusted on the fly according to EGT readings.

In addition to the Vari-Flow unit, Barry Holtzman also introduced the Tempa-Flow unit. This unit automatically adjusts the float bowl vacuum through a bleed circuit controlled by the differential expansion of two materials as the temperature changes. This has been a successful product in the Midwest, where temperature changes are more of a concern than altitude variations. It's a "leave-it-alone" system that changes your calibration automatically with temperature as the season progresses.

I have heard a lot of positive feedback from users of the Tempa-Flow system. Barry was very active with fuel system innovation for a long time, and you can buy products designed by him at places like Straightline Performance (www.straightlineperformance.com).

Although fuel injection dominates the new machine market, there are still thousands of older sleds out there that use carbs. Trail riders and racers alike are always looking for easier ways to adjust the fuel mixture, and the aftermarket is still providing innovative carb tuning solutions. 🧊



Olav Aaen is a long-time contributor to AmSnow. As a mechanical engineer and president of Aaen Performance, Olav has been heavily involved with snowmobile performance since 1968. Aaen Performance is best known for pioneering performance pipes and introducing the roller clutch to the sled market.

**A NUMBER OF
SYSTEMS ARE
NOW AVAILABLE
THAT MAKE IT
EASIER TO
TUNE CARBS.**



YOU CAN DO IT! It's not as easy as changing the oil on your garden tractor, but you too can learn to change the oil in the new Yamaha or Arctic Cat 4-stroke sleds with Yamaha's Genesis 3-cylinder engine in them. We have quick step-by-step instructions right here!

Changing your 4-stroke oil

EASY GUIDE TO 4-STROKE ENGINE MAINTENANCE

Owners of 4-strokes are undeniably proud of the fact that they don't have to add oil to their machine every two tanks of gas or so. There is, however, still the need to change your oil and oil filter at least once a season. The 2-stroke crowd is certainly quick to point out this maintenance requirement.

The SR Viper from Yamaha has become one of the most popular 4-strokes ever produced. These steps will show you the proper way to change

the oil in your 2014 or newer SR Viper or Cat ZR 7000 sled, along with a few tricks to make the task a little easier.

Step 1: Park the snowmobile on a level surface, shut the engine off, and remove the right side panel. **CAUTION:** Engine oil gets very hot. If sled has been running an extended time, let it cool down for a half hour or so.

Step 2: Take off the remaining right side panel and remove the right footwell

bracket by removing the Torx-head bolts (T20). You'll need to remove the bolts from behind the side panel on top of the footwell (2a), and from under the right footwell (2b). Once the Torx-head bolts are removed, the bracket should come off easily.

Step 3: With the lower drain bolt now exposed, place an oil pan beneath the right footwell, and loosen the drain bolt (14mm wrench) as much as you can without dumping the oil.



EXPERT TIP

Cutting the bottom off an empty 1-quart oil bottle, as shown, makes a great funnel for this oil change, and it keeps draining oil from creating a mess in your footwell. Be sure to use a wide-mouth oil jug. The smaller quart-mouths do not allow oil to drain fast enough, causing a mess!



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Step 4: Create a funnel (see *Expert Tip*, p. 42) to place in the footwell and direct the oil into your oil pan as it drains out. Finish removing the loosened drain bolt by hand once funnel and pan are in place. Allow the oil to drain completely (4a). Once oil has completely drained, reinstall the drain plug with the new gasket from your Yamalube Oil Change Kit. Tighten drain bolt to 16 ft.-lbs.

Try to hold on to the drain bolt when removing it, but don't panic if you drop it. The wide opening in your fabricated fun-

nel will allow the drain bolt to drop through to the oil pan. You can retrieve it after the oil drains.

Step 5: Jack the front of the sled up high enough to reach the rear access panel under the belly of the sled, and take it off by removing the four Torx-head bolts (T30). Here is where you'll find the engine oil drain bolt and oil filter (5a).

Step 6: Move oil pan in a catch position under sled, remove the engine oil drain bolt, and allow oil to drain completely. With the

oil pan still in place, remove oil filter with a filter wrench. Make sure the old O-ring comes out with the old filter. Your new filter will have a new O-ring with it.

Step 7: Dab a small amount of fresh oil on your finger, and coat the new oil filter O-ring with enough oil to cover the rubber. Install the new oil filter from your Yamalube Oil Change Kit by hand, tightening until the O-ring has contacted the oil filter mounting surface. Tighten oil filter with

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HIT THE TRAIL! Now that you've finished, it is time to enjoy!

wrench to 12 ft.-lbs. Then reinstall the engine oil drain bolt with its new gasket from your Yamalube Oil Change Kit (tighten to 7.2 ft.-lbs.) and the rear access panel.

Step 8: You're now ready to refill the sled with oil. Fill the oil tank with 2-2.5 quarts of new engine oil from your Yamalube Oil Change Kit. Tighten the oil tank cap, and start the sled so the fresh oil can cycle through the engine. You'll see the oil level drop in the sight window when this happens. Let the sled run for 30-60 seconds.

Step 9: With the engine off, finish filling the oil tank with fresh oil until you see the oil level rise to about halfway up the sight window. Reinstall the footwell bracket and side panels. You're done; go ride! 🏂



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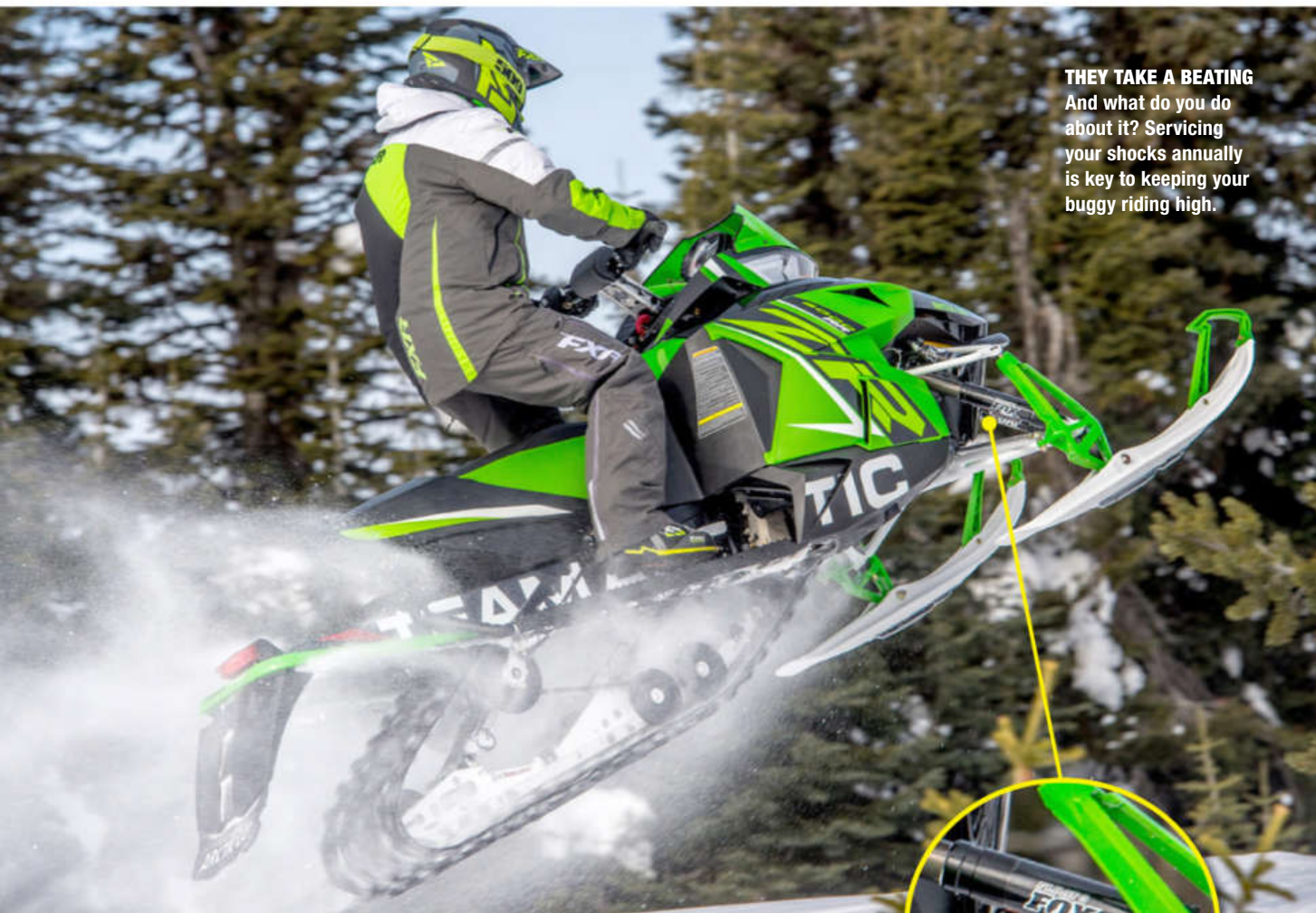
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SERVICING YOUR SHOCKS PAYS OFF

» **If you had it** your way, you'd ride everyday. We'd all much rather be out pounding the trails or powder than in the shop. But sled components need some love once in a while, and servicing your shocks regularly will keep you riding more ... and save you some dough! Who wouldn't like that?

We recently spent a day at the main FOX Shocks facility in Baxter, Minn. It's the powersports headquarters for a top-tier shock company that's been in the suspension business for more than 40 years.

While there, we took an in-depth look at the shock servicing process and discussed exactly why it's important to service your shocks annually.

■ Why service shocks?

There are many integral parts of your sled that are working hard during every inch of every mile you ride. Your shocks are one of the hardest working of those parts. You routinely do maintenance on your sled's engine, and you religiously inspect the track, hyfax, carbides, skis, grease zerks and more. So why

would you treat your shocks any differently?

Unfortunately, many riders out there often neglect them. I won't name names, but I can think of many buddies in my various riding crews who I know have never had their shocks serviced. They often get a lecture from yours truly before the season starts, because there's nothing worse than having to wait for a repair once snow starts to fly.

According to the fine folks at FOX, servicing your shocks should be at least an annual maintenance item. Even with

the great "Ice Scraper" technology and other advanced items on their shocks, they will tell you that there is no 100% effective solution to keeping water and other debris out of your shock, regardless of the number of miles you ride. Especially in the demanding cold, moist, and rigorous winter conditions we ride in.

"Your average trail rider will typically go 20, 30, 40 miles and then take a pit stop at their favorite watering hole while their sled sits in freezing temps for 30 minutes or so,"

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OLD VS. NEW The difference between old shock oil (top left) and clean oil (top right) is clear. So is the wear between new and used bands and rings.



said Carey Daku, customer service representative at FOX. "Then they jump back on with all the ice and slush frozen to the suspension and hammer down."

Obviously, that's not an ideal situation for anything mechanical to operate. Combine that with the wide range of temps your shocks are expected to perform in – plus any rock, stump or other object it may come in contact with – and you can argue that there isn't another part on your machine that faces the same extreme demands as your shocks.

If you notice a nick or ding in the outer sleeve of your shock, it may only look like a cosmetic issue, but there's a good chance it's causing an issue on the inside of your shock too. Those evident issues on the exterior often result in rings and seals wearing irregularly, and over time they'll allow

THE COST?

Service prices start as noted below.

Each shock is different and includes a thorough inspection and fresh oil. FOX service experts will also make a recommendation of any additional attention your shocks might need. Additional parts will be quoted as an additional cost.

- **Float/Float 2:**
\$120 per pair
- **Float 3/Float X EVOL:**
\$145 per pair
- **Float R EVOL:**
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- **Zero-Pro:**
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water and other foreign substances to enter your shock, which inevitably affects the shock's performance.

But don't wait to have your shocks serviced until you

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TWO EASY SHOCK UPGRADES

By far, two of the best deals in the sled industry are the upgrade offerings available through FOX.

One of the upgrades involves adding Kashima coating to your FOX Float or Float EVOL shocks for \$150 (Float X or Float 3 RC2 shocks cost \$250). FOX is the only company offering the Kashima coating, which adds durability and reduces friction on the shocks, improving traction and handling through the stutter bumps. For this upgrade, your shocks must be sent into FOX's service center for the upgrade. While there, your shocks will also get a complete rebuild, which is included in the price.

The second upgrade option is the EVOL upgrade kit, which includes everything you need to bump your Float 2 or Float 3 shocks up to FOX's most adjustable EVOL shock. For those riders who have graduated beyond the Float 2/Float 3 in riding ability and suspension adjustment, the EVOL shock gives you more of everything! The kit costs \$350 and is available for the consumer to purchase and do the upgrade themselves. You can also send your shocks into FOX for their experts to upgrade them for that same \$350 price.



see a blemish on the exterior. Simple items like changing shock oil on an annual basis are essential to properly functioning suspensions. 4-stroke riders out there know that their engine oil has a useful life and needs to be changed regularly. Similarly, 2-stroke riders understand the importance of keeping moving

engine parts sufficiently lubricated. Your shocks and the oil inside them are no different. Over time, that oil breaks down and needs to be changed, just like any other lubricated part of your sled.

Take it from me, one of the world's leading procrastinators: don't wait to service your shocks until the flakes are fall-

ing. Get it done and ensure that you're ready to ride when the time comes!

■ What you need to do

As little as possible. Seriously, the recommendation from the shock experts at FOX is not to touch your shocks yourself. The number of people who truly understand the

complexities and science behind the inner workings of a snowmobile shock is small, at best. Your best option is to leave this to the pros.

By boxing up your shocks and sending them in for service, you're sending them to same people who build shocks for the likes of Tucker Hibbert, Keith Curtis, Chris Burandt, Travis Pastrana, etc. All of FOX's racer support, regardless of discipline, is serviced out of the Baxter facility by the same folks who serve their individual consumers.

All you need to do is log onto www.ridefox.com and follow the instructions under the "Service" link. Once the paperwork is filled out, remove your shocks from your sled, box them up and send them to FOX.

The FOX service team will disassemble the shocks, inspect for damage and wear, and contact you with a quote and recommended solution for your shock before performing any maintenance or repairs. Once repairs have been made, FOX ships the shocks back for you to reinstall on your sled. The entire process takes about a week, from the time the shocks leave your hands to the time they're back in them. 🐾



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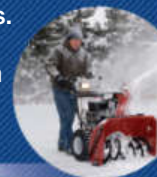
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IT IS EASY IN THE SHOP But out on the trail, when it is -20 F, getting dark, and your friends didn't realize that you blew a belt so they didn't stop ... changing a belt quickly (and doing it easily) instantly becomes No. 1 on your priority list. Here are some tips to do it better and faster.

Belt change tips

EXPERT TIPS ON CHANGING BELTS FROM EACH OEM

➤ **10 minutes?** 20 minutes? The only thing that's complained about more than actually HAVING to change a belt on the trail is HOW LONG it took you to change that belt.

When a belt disintegrates on the trail, there will always be a joke made about the amount of time you spent "fixing your belt" or "shaving your knuckles" or "learning what a clutch is." But on any sled, there

are always tricks and tips for changing a belt quickly, efficiently and without ruining your day of incredible riding.

Here's a quick guide for changing a belt from each snowmobile manufacturer with their current stock clutching on current engines and in current chassis. The process is basically the same for each manufacturer (Arctic Cat, Polaris, Ski-Doo, Yamaha), so see the numbering process



below, but pay close attention to the tips in this story if you want to save time!

1. Remove the left side panel of your sled to expose the clutches. Pull the pin, turn the tabs or pull the strap – each OEM employs a different panel closure system. The only secret here is making sure you open the closure totally. Pull the panel off completely, so you don't accidentally lean

PROCROSS CHASSIS EXPERT TIP

Sleds built on the ProCross chassis (Cat's ZR and some XF sleds, and Yamaha's Vipers) require you to remove the side panel fully to access the secondary clutch. But there is a secondary "flap" or "panel" just to the rear of the sled from the main panel. Don't take this panel totally off, but you will almost need a third hand to keep the working area near the clutches clear when this half-panel wants to snap back in the way. To remedy this, simply turn your handlebars all the way to the left so the top lip of the plastic panel catches and rests on the end j-curve of the handlebar or brake lever. It will now stay out of the way.



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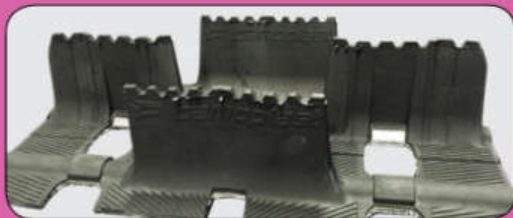
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TECH NOTES



against it and break something.

NOTE: For Ski-Doos, you'll also need to remove the clutch guard (1A) which houses your spare belt and "L" wrench, by pulling the pin located near the left foot well.

2. Using the "L" wrench provided in your OEM tool kit, open the secondary clutch sheaves by turning the clutch key clockwise. Open far enough so you can work the old belt off from around the secondary. (2A) Once the old belt is off the secondary, remove it from around the primary clutch. This may be more difficult as most primaries are in tight quarters with the side panels and belly pan. You may have to rotate the belt around the primary to work it off (like taking the chain off a bike).

3. Paying careful attention to the proper orientation as indicated by the arrows on the belt, install the new belt around the primary clutch first. (3A) Again, this may require some rotating of the belt to get it around. Then slide it onto the secondary.



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EXPERT TIPS

1 For Yamaha's YVXC clutching (most current models) you do not need an "L" wrench. Set the parking brake and rotate the secondary clutch backwards with your foot. This will open the secondary sheaves enough to remove the belt. Just don't go too far, or the clutch could pop out.

2 If you blow a belt in reverse, or put the sled in reverse with a blown belt, always make sure your sled is shifted back in forward gear first. Opening the secondary clutch sheaves with the clutch tool without the clutch in forward motion can cause damage to your clutch. Always have the sled turned off when changing a belt as well.

For Arctic Cat, Polaris and Ski-Doo, sliding the belt over the secondary should be a fairly easy task. For Yamaha sleds, it's more like putting a bike chain back on. You'll work the belt around the secondary as far as you can (maybe halfway). Then, using the same foot method mentioned in the EXPERT TIPS above, work the secondary backwards until the belt slides onto the clutch. **(3B)**

4. Rotate the belt backwards around the clutches until the secondary sheaves close and the belt is barely able to spin backwards under hand power.

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Reader reactions: Secondary clutching

➤ **AmSnow Tech Editor, Olav Aaen, discussed the pros and cons to recent OEM changes in secondary clutching** (Clutch Situations, p. 58, Jan. 2015).

Here's one reader's comment and another's answer:

"Sadly, the use of encapsulated straight pressure clutches on 4-strokes is not only inefficient, in my opinion, but adds to the high belt temps on A/C turbo sleds. The new secondary clutch A/C engineered for 2016 is hopefully better since they have been chasing some belt issues on the turbos for the last 4 years. You are 100% correct that a torsional clutch with both side and torsional pressure is much better. If you add a lower angle helix to the mix, the secondary performance becomes efficient and performs better on the big uber 4-strokes."

Interestingly, Yamaha has used their 40-year-old button torsional clutch on the Apex since day one with no belt or clutch issues. Since 4-strokes do not spin

backwards, the only reason to use a non-torsional clutch on a 4-stroke is for accounting, not engineering, reasons. I bet if someone cost-accounted all the war-

ranty costs that have incurred versus the cost of using a torsion clutch from day one on the 4-strokes, the numbers would favor the old design."— *Ed Welsh, New York*



Q
+
A
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Is direct injection the answer?

Q One OEM, Ski-Doo, has had direct-injected snowmobiles for almost a decade of model years on snowmobiles. Why haven't other manufacturers followed suit? The biggest reason is money. I was talking to Rob Strauss, owner of Rob's Performance (Ski-Doo Dealer of The Year) in Johnson Creek, Wis., about this very topic. Rob is pretty darn knowledgeable about everything motorsports related, and he has been on Ski-Doo's short list of highly coveted development brains for several years now. His question to me was, "Do you think Ski-Doo would have invested in direct-injection technology if BRP would not have merged with Evinrude?"

A My answer? Probably not, since the investment in this engine technology is too high. Rob pointed out that investment is a big reason why you see other manufacturers relying on more sophisticated (but slightly less expensive) tech like EFI, CFI, CTEC, etc. 4-strokes also play a large part, because of the economies of scale and scope that can be attained using similar engines for both ATV, snowmobile, or watercraft. BRP does this with their ACE engines. So does Arctic

Cat with their new 3000 4-stroke. Yamaha in particular does this, but Polaris has also used similar

engines and parts from other product lines, including motorcycle and ATV commonalities. So



Ski-Doo's direct-injected 800R and 600 H.O. E-TEC engines.

Q Reverse psychology

I have a technical question regarding a 1999 Ski-Doo Formula 380 Deluxe. Reverse always worked great until the other night when I pressure washed the engine compartment. Now when you start the engine, it continuously alternates between reverse and forward. I blew out all plugs at the reverse button and CDI ignition. I'm at a loss and need your help! – Perry Gilbertson

A When power washing the machine,

there are a couple of issues that may have occurred. Checking and cleaning all the plug connections is a necessity, but also using dielectric grease in them will help make a true connection. Be sure to disassemble the switch and completely dry it out, along with reconfirming the grounds in the chassis are all in good connection. Lastly, there is a possibility that the actual switch was shorted and will not hold the connection. If so, it'll need to be replaced.

– Jason Houle, Straightline Performance

the opportunity of using other motorsports technology on sleds is available for all the OEMs. (Recent examples: EXUP exhaust, turbos, power steering, engine modes, etc.)

Don't forget that the EPA was possibly the biggest catalyst to push OEMs to start down the DI, EFI, and 4-stroke paths for snowmobiles. But that's totally another discussion. Staying on point here, it is VERY expensive to put together a direct-injection engine program like that of BRP and, frankly, the rewards of doing it may not justify the investment for a company like Polaris. We have been most interested in seeing Polaris play in the DI market because to some extent they have solidified themselves as the No. 2 snowmobile maker. Certainly from an overall company standpoint, they are doing very well. So the fact that they have not invested and gone "all-in" on a direct-injection motor when their No. 1 competitor has this technology has us wondering when (or if) any other snowmobile OEM will take that leap. What do you think? Join the conversation on our Ask the Experts forum on amsnow.com/forums. – Mark Boncher, Editor

You said it!

We asked our readers: What type of sled are you in the market for next? Here's what you had to say!

CROSSOVER (137"-141" track length) **52.70 %**

TRAIL (120"-129" track length) **32.84 %**

MOUNTAIN (144"+ track length) **14.46 %**



Q Power jets?

I searched for tuning info on a 1994 Mach Z 780 Mikuni flatslides and did not find much. I was surprised to see it had power jets. It is going to be used for asphalt drags. The product description sounds good, but should I keep them? – outlaw fab shop

A They sure do have power jets!

I may have some old microfiche to give you stock specs. You can also remove them and run them as a 95-and-up setup. Ski-Doo also has a number 0 jet that is a plug, so you can disable the power jet. If your motor is modified, a good set of bored MZ flatslide carbs works well. – Todd Guthrie, Dyna-tech Performance

Q Watch it bounce

I got a 2004 Ski-Doo 600 SDI H.O. It hits the rev limiter at 1/2-throttle or more, but if you

ease into it, then it doesn't hit the rev limiter. I rebuilt the top end and I've rebuilt the primary clutch. Any ideas? – AJ Truman via Facebook

A There is a possibility that the new rebuild on the engine is producing more HP than the older and the current clutching is no longer holding the proper rpm anymore. This is a slight possibility, but more than likely, the installation of the clutch parts are incorrect and are now causing the high rpm to hit the rev limiter. – Jason Houle, Straightline Performance

Q ISR stud rules

I need clarification. It doesn't say in the rule book how far to the edge of the outside of the track the studs can be, so can I put the backer right to the edge of the track? – machz975

3
YEARS IS THE
ISR RECOM-
MENDED MAX-
IMUM AGE OF
A PRO STOCK
SLED'S TRACK.

Blast From the Past – readers are still reacting!

Q What significant events, technology advances, people, places, etc., do you see as being the turning points in the history of the snowmobile? Carl Eliason when he invented his motor toboggan? JA Bombardier when he made his first rider-over-track snowmobile? Edgar Hateen with his arctic trek in Alaska on an early Polaris Snow Traveler?

– *VintageElanGuy (Original post date: April 7, 2006)*

A This continues to be a hot topic on our forums at AmSnow.com! Many folks chimed in with their take of not only technological advancements, but also political and economic issues. The energy crisis of the 1970s and economic troubles in the 1980s were both rightly mentioned as major turning points in the snowmobile industry. Present-day issues, such as the high cost of sleds, increased government involvement, poor winters and high gas prices, were also mentioned. Here are some other responses:

- 2003 - Yamaha releases 4-stroke snowmobiles. – *YAMMIEGOD3:16*
- Arctic Cat Panther with slide suspension. – *Anonymous*
- J. Armand Bombardier. Really, the basics have not changed much in 40+ yrs. Track under rider, two skis in front, engine ahead of rider. – *1150 BM REV*
- How about when the MGF all started producing the sleds with tuned exhaust instead of tractor exhaust. – *MiModRacer*
- 1976 snopro season the tech advancement of liquid cooled sleds, 1989 the introduction of exhaust valve modifiers on the 583 Mach 1 Ski-Doo, and Polaris when they started coupling rear suspension arms. – *dyna-tek racing*
- The introduction of Independent Front Suspension. – *SUPERTUNER*
- The switch from piston port motors to case reed motors. – *1000cc*

To get in on more great discussions like this one, visit www.amsnow.com and click the 'Forums' link at the top of the page!



Yamaha's RX-1 was the world's first true high-performance 4-stroke consumer snowmobile, and it really was a sled that helped start what's become one of the industry's great debates: 2-stroke vs. 4-stroke.



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A There is no stud placement rule when it comes to drag racing, only a maximum height over the tallest point of the track. For snocross and some cross-country racing, there are stipulations as to stud location. ISR has the rules posted on their website to double-check your specific need.

– Todd Guthrie Dyna-tek Performance

Q The right ratio

I have an 800 imp. Ski-Doo. What's the best comp ratio to run for ice and/or grass drags? – *ski-doo ps 1000*

A Too many things go into determining what is best for your application. Different pipes, porting and ignition timing all have an effect on it, but here is the basic concept: Asphalt and ice guys usually run a lower compression ratio than the dirt guys do. 800 triples can be 14.5 to 16:1 comp ratio for ice and asphalt. The grass guys can be 1 or 2 points tighter than that for grass. Like I said, a lot of things play into a final comp ratio for me to be able to give an exact answer. This is where some guys will put tens of thousands of dollars into a motor to change tuning aspects and find the sweet spot for their particular sled.

– Todd Guthrie Dyna-tek Performance

Q Wire it up!

I have a 1994 Mach Z 780 for asphalt. Right now I have a stock tach, headlight and taillight. I thinned down the harness of all the other gauges, lights, speedo, etc. I would like to eliminate everything



Ski-Doo's 1999 Mach Z 136 was considered an LT model, or "Long Track." Some of today's trail riders prefer 136+ inches.

Q Drop it!

Can the stock rear skid on my 1999 Mach Z 136 be lowered with short shocks rather than strapping down? Is there a kit or idea for this? I'm just starting off with some recreational ice dragging for now. – *monstermach99*

A Yes, you can shorten the shocks or use shorter shocks. Just compress the suspension to your target height and measure your shock length from bolt to bolt. There are a lot of cheap shock options to use to get it where you want it. – Todd Guthrie, Dyna-tek Performance

except what's needed for a VDO Tach, kill, tether and, of course, stock ignition. I can make the harness and weather pack connectors, just need some input or sketch to do so. – *outlaw fab shop*

A Very easy! Green on your tach to either yellow wire from your stator, then ground the remaining yellow to a

good ground. Tach red to a battery power, and tach black to battery ground. The kill switch and tether are just grounding the CDI black when the switch is activated/tether pulled, so one ground wire can be run to both. I never ran a voltage regulator, so I would not worry about one. – *oldschool780* 🐾



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Getaway Guide

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READER PICKS» TOP 5 CANADIAN DESTINATIONS

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▲ The trail to Killarney is wide, well-groomed and smooth.

◀ This cliffside ice formation on the shore of Long Lake was a natural curiosity for passing sledders.

Cruising to Killarney

Sudbury is for Snowmobilers

BY MIKE CARR • Todd Schei photos

When the snow doesn't come to you, you go to the snow! Last season, the weather brought big powder to New England and eastern Canada, but much of the West and Midwest were barren. By mid-February, those who hoped to salvage the season hit the road in search of snow.

Ontario not slacking!

Forty miles north of Lake Huron's Georgian Bay and 200 miles east of Sault Ste. Marie is Sudbury, Ontario. The region was blanketed with deep snow. Our last visit was back in 2000 and the trail network is typical Ontario: wide, long, and fast fun.

I had a joint invitation from the City of

Sudbury and Northeast Ontario tourism offices, thanks to Shawna Cole and Donna MacLeod, who rolled out the welcome mat for me and my photographer Todd Schei. Our base of operations was Chateau Guay, a family-owned motel and restaurant east of downtown Sudbury, where snowmobilers have been welcome for decades. A spur trail provides easy access to the trails, making it an ideal jumping-off point.

After an 11-hour drive from Milwaukee, we arrived at the motel on Saturday night, and our timing was perfect! The region was emerging from a three-week stretch of bitterly cold subzero temps.

With the temperatures having risen from -20 F to 20 F over the weekend, con-

ditions were ideal Monday for our daylong excursion with local snowmobilers Lloyd Myllynen and Frank Bellehumeur. Both gentlemen are avid riders who are involved with clubs associated with the Sudbury Trail Plan, the entity that oversees trail maintenance in the region. The two men take great pride in the trail network and are well acquainted with every mile.

Our destination was the town of Killarney, a sleepy port on the shores of Georgian Bay. We set out southwest, and the first leg on trail 111 took us over rolling and mostly rocky terrain, along a power line and then through a tunnel under provincial Highway 17, the busy bypass around Sudbury. Before long, we were into





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For Ontario snowmobiling info and online trail maps, visit the Ontario Federation of Snowmobile Clubs, www.ofsc.on.ca. Permits (full-season, 7-day: \$140 CA or 3-day: \$75 CA) are required. Cost is reduced if purchased prior to December 1, and you can buy and print these permits right from the website. There is also usually one free "family" weekend each season, when trails are open to all riders with no permit required.



▲ Trails are well-marked throughout the Sudbury region, as this trail junction signage proves.

the forest, enjoying a short stretch on trail 108 before connecting with trail 107 that would take us all the way to Killarney.

The Rainbow Elk Loop we were on was one of three named circuits, each originating around Sudbury and going different directions. The three are the Rainbow Elk Loop (325 km) going southwest, the Cartier Moose Loop (253.5 km) going northwest and the Chiniguchi Wolf Loop (223 km) to the north. These well-groomed and well-marked routes offer enough mileage for at least three days of great riding and exploring the region.

Trail 107 meanders south and then west through deep woods, characterized by roller-coaster ups and downs and few roads. Lloyd advised us to be on the lookout for elk, but they were shy. Turning off the

Rainbow Elk Loop, the last segment of 107 took us through Killarney Provincial Park, then into the town of Killarney. The trail passed the local airport, and we pulled up outside the Killarney Bay Inn, where local groomer operator Tom Green met us for lunch. We swapped stories of trail misadventures, and learned that just that weekend a sled had crashed and burned along our return route. We kept our eyes peeled for that throughout the ride back.

Islands by sled!

After lunch, we headed out onto the ice to George Island, the forested isle at the end of the Killarney Peninsula. On the far side, the massive Georgian Bay stretched to the horizon as a brisk wind buffeted us. The thick ice was largely snow covered,

with only a few clear patches visible as we motored around the island. We took pictures in front of tall piles of ice shards, the glistening crown atop a shoreline ice heave.

After circling the island, we refueled in Killarney at the Pitfield General Store, a rustic establishment located along the channel separating the island from the peninsula. Then we backtracked to the Rainbow Elk Loop, taking it north skirting the Provincial Park for a few miles before veering off at Lake Panache to another section of trail 108. Starting the return journey northeast would take us over several more lakes on our way back to Sudbury.

It wasn't long until we found the site of the sled crash. All that remained after the inferno was a melted hulk, barely recognizable as a sled, and a tree trunk that was charred up to 15 feet from the ground. Fortunately, the riders survived.

As we continued, the trail took us over land and ice. On the shore of Reef Lake, a path was cut through a tangle of downed trees, felled by a powerful tornado two summers before. I've ridden through such tornado paths, but this was impressive because of the sheer size of the tree trunks – a testimony to the twister's intensity.

The trail was smooth and lakes were well-marked, so we cruised at high speeds, with occasional forays off the trail and into the deeper powder. When we reached the aptly-named Long Lake, vacation homes ranging from humble cottages to mansions overlooked ramshackle fish houses dotting the ice. One shoreline cliff even had a frozen waterfall!

The sun was set as we returned to Chateau Guay. Our Sudbury journey was a fabulous 153 miles, and we had only compliments for Lloyd and Frank for showing us their trails. The region's clubs do a superb job on the outstanding network, making Sudbury one of Ontario's top rides. 🐾



BONUS ROUND!

On Sunday, March 1, we took in the CSRA Canadian National Snowcross racing event held on the edge of Sudbury. I met Sandra Hayden, mother of 2014 CSRA Pro Open champion Iain Hayden and at her invitation, I was able to meet Iain and his race team, and get a glimpse inside their well-equipped trailer. What a cool bonus!

READER PICKS» TOP 5 EASTERN DESTINATIONS

Tug Hill, N.Y. / Old Forge, N.Y. / The County, Maine / Great North Woods Region, N.H. / Northeast Kingdom, Vt.



▲ From Pennsylvania to Maine, every snowmobiler has heard stories about Old Forge, N.Y. This snowmobile town is a “must visit” for any trail rider, but there are additional fees for certain towns in the area, and make sure you have your insurance card handy as well. We’ve spent some incredible weekends exploring Old Forge and nearby areas, and the trail system does not disappoint!

Mountains east, my friend!

Snowmobile mecca of Old Forge, N.Y., offers trail and powder fun for everyone

STORY AND PHOTOS BY ROSS HALVORSON

Everyone in my family gives me a funny look when I tell them I’m going snowmobiling in New York. I think it’s because a lot of Midwesterners think of New York as big city, flashy billboards in Times Square and nothing more. But the Empire State has much more to offer those who come with sleds in tow!

Less than 300 miles from the Big Apple sits the quaint, lake country town of Old

Forge, surrounded by the Adirondack Mountains. Situated along N.Y. State Highway 28, about an hour north of Utica, the people of Old Forge love the snow and their sleds. They kick off every snowmobile season with *AmSnow*’s annual New York Shootout (it will be held near Old Forge Inlet this year) and then the town’s annual

GETTING THERE

From Syracuse, N.Y.:
96 miles, appx. 2.5 hrs.
From New York, N.Y.:
288 miles, appx. 5.5 hrs.
From Pittsburgh, Penn.:
450 miles, appx. 7.5 hrs.
From Montreal, Canada:
198 miles, appx. 4 hrs.
From Boston, Mass.:
309 miles, appx. 5.5 hrs.

Snodeo celebration, which features a trade show, a swap meet, 120cc races for the kids and many more festivities throughout town.

Leveling out

Old Forge is one of several towns that run along the shores of the Fulton Chain of Lakes in upstate New York. The trails are kept in pristine condition all winter thanks to round-

the-clock grooming by several neighboring municipalities.

Our day of riding started after an early-

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season dumping of 8 inches on top of an already solid 8-10 inches of base. My guides for the day were the boys from Curve Industries, who were in town for the festivities and helping out with the *AmSnow* New York Shootout. Our Shootout always takes place on the Friday afternoon that Snodeo begins (you can check out full exclusive results from that event in our February issue).

With our Shootout duties behind us, it was our turn to get behind the bars and do some exploring around Old Forge. There was no shortage of untouched trails! Just north of Old Forge sits a maze of trail loops and spurs that you could spend all day exploring. This was the first weekend of open trails in the area, and many of the trails we came across had yet to be touched by a groomer or sled. It was a picture-perfect start to the season!

Endless trails

There's one thing that must be said about riding in New York: Trails run from one end of the state to the other. You could ride from Niagara Falls to Montreal if you wanted to! The main corridor in the Old Forge area, trail C7, can take you nearly from Pennsylvania to New York's northernmost Canadian border, near Montreal.

Unfortunately, we only had a single day to put miles on. We didn't stray too far from Old Forge, and we didn't need to.

PAY TO PLAY!

You'll need to pony up a few extra bucks to ride in the Old Forge area. You need a New York state snowmobile sticker, AND another sticker allowing you on trails maintained by the towns of Webb and Inlet. New York requires out-of-state sleds to carry insurance too.

So, what gives? Well, these trails are maintained 100% by the municipalities, not clubs. The towns do not receive any money from state trail funds. The town trails are immaculate, and groomed by a paid staff 24 hours a day when conditions allow. Maintenance like that costs money. A 7-day pass for Webb and Inlet trails is \$45, and a full season is \$80. To upgrade your 7-day pass to a full season, just swing by the Visitor's Center.



▲ Trails, powder, sun, views and fun! This area of New York is a snowmobiler's playground. There are plenty of new trails to explore, as well as interesting places to take a breather and just soak in the old-world charm of the Adirondacks.

After a quick breakfast, we followed the trail along Highway 28, which winds around the north shore of the first four lakes in the Fulton Chain of Lakes. The road and trail then cross to the south side of the remaining lakes at the town of Inlet.

It was here that we just had to stop at The Ole Barn Restaurant. It's a very popular trail stop and reminded me of the early days of *AmSnow*'s New York Shootout, when it used to be called "Shootout Behind the Ol' Barn." You can usually judge the quality of a trail stop by the number of sleds in the lot. This was a quality stop!

The town of Inlet also serves as the gateway to the Moose River Recreation

Area. With 50,000 acres of wilderness and more than 40 miles of trails running through it, there's plenty to explore. Be sure to gas up before you leave Inlet!

We wound our way around the Moose River and worked our way back to Old Forge, making several stops along the way to play in open areas along the trail. In just a little more than 100 miles, there were plenty of photo ops, even on an overcast day. Remember: You're in the heart of the Adirondacks, so nearly every photo you take has a spectacular mountain backdrop!

No matter your riding ability, the trails, photos and vibe are high in the proclaimed "Snowmobile Capital of the East!" 🐾



▲ FOOD! Yep, there's plenty of it in and around Old Forge as well. The Ole Barn Restaurant is a local staple and a must-stop place on your ride. The 2015 New York Shootout will be held here again!

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READER PICKS» TOP 5 MIDWESTERN DESTINATIONS

Western UP, Mich. / Eagle River & St. Germain, Wis. / Hayward, Wis. / Thief River Falls, Minn. / Sault Ste. Marie, Mich.



▲ From the bluffs just to the east of Munising, you can see the entire bay that the town sits on. The southern shores of Lake Superior are prime targets for massive lake effect snow, and Munising is directly in the crosshairs!

Picture perfect

Postcard-worthy riding in Munising, Mich.

BY ROSS HALVORSON • Rick Dobson photos

This past winter, snow for Midwesterners was scarce, at best. Those of us who longed for miles of groomed trails and back-country forays were left to trailer north or west to destinations, only to find below-average snowfalls. But there's one sure bet for hearty flyover-country snowmobilers, and that's Michigan's Upper Peninsula.

This strip of land separates three of the Great Lakes (Superior, Michigan and Huron). Those same bodies of water produce coveted lake-effect snow, making this area one of the premier snowmobile desti-

nations in the world. It's along the southern shoreline of Lake Superior where we find the town of Munising, Mich., nestled neatly south of Grand Island along Michigan State Highway 28. Only a day's drive from most major cities in the Midwest, Munising is the self-proclaimed "Snowmobile Capital of the Midwest."

In recent years, Munising seems to have fallen down the list of preferred riding locations, and the reasons why are a mystery to us. We spent a few February days there last year and rediscovered what makes Munising a snowmobiler's paradise!

Snow is always in abundance in Munising and the surrounding areas. The aforementioned lake-effect snow falls to the tune of more than 230 inches annually in Munising. It comes early and stays late, making for a lengthy riding season that often lasts into April.

If you're the kind of rider who likes to pound out the miles, then you're in luck here. Alger County is home to more than 300 miles of groomed snowmobile trails, and those trails have tons of character. The town of Munising is surrounded by the Hiawatha National Forest, which





▲ Downtown Munising has plenty of restaurants, lodging and gas stations. The snowmobile trail skirts the southern edge of the town, so you can access almost any place with a quick walk.

GETTING THERE

Distance from Chicago:

378 miles, 7 hours

Distance from Detroit:

409 miles, 6.5 hours

Distance from Minneapolis:

425 miles, 7 hours

Distance from Toronto:

560 miles, 10 hours

was formed by glaciers and offers miles upon miles of scenic trails lined by snow-covered trees. The forest stretches from Lake Superior all the way south to Lake Michigan.

When stopping for a quick break on the trails, don't be surprised to hear the trickling of water from one of the many moving creeks and waterfalls (not your buddy's man-made trail trickle!). These glittering springs are found throughout the area, making for the perfect selfie opportunity!

Say cheese

Traveling by trail to the northeast, riders will find themselves along the Pictured Rocks National Lakeshore. The aptly named region offers plenty of panoramic views of Lake Superior and beautiful rock formations. The rocky shoreline also features plenty of picturesque lighthouses for those with an eye for photography.

Head to the west from Munising, and you'll be no less wowed by both natural and man-made scenes. Snowmobile Trail 417 runs right along Lakenenland Sculpture Park. Here, a collection of artist



▲ Choosing your pleasure of what to explore is often the hardest part of the day when riding out of Munising. Waterfalls, ice caves, sculptures, and off-trail opportunities are just a few options.

Tom Lakenen's metal sculpting work welcomes snowmobilers of all ages with a warm fire and hot cocoa. The entertaining artwork is built out of scrap iron and is one of the most unique sights you'll see while on a sled. It's free to the public and open seven days a week.

If you're looking to take in natural beauty, you can get close to the Eben Ice Caves. You'll need your sense of adventure, as the caves are located off the marked trail. But you can ride the roads off Trail 8 west of Eben Junction and get within a short hike to the ice caves. No motorized vehicles are allowed near the ice caves for safety purposes, but it's definitely worth the walk!

Those with a bigger appetite for adventure and perhaps a little off-trail fun will have plenty of options. You can easily spend a day out on the Great Kingston Plains, a playground of powdery fun! It's located along Trail 8, east of Munising and just before Kingston Lake. The parking lot will give away the location. But ride at your own risk, as there are plenty of stumps and other hidden obstacles awaiting unsuspecting A-arms! You may also want to trailer to this location or bring extra fuel, because playing hard in the powder burns fuel quickly!

There are plenty of backcountry possibilities just outside your hotel door, too! All you have to do is ask at the front desk and your hotel staff can set you up with knowledgeable, friendly guides.

With plenty of towns along the trails and through the woods, you're never very far from a hot meal, a cold beverage or a warm bed. The snowmobile is king in this town! No matter your riding style or trip objective, you'll find the Munising area a first-class snowmobile destination! 🐾



Keep your wits about you, as the trails near Munising can get rather tight and twisty in a few spots!

WHERE TO STAY

We set up camp for the week at Munising's Boarders Inn and Suites, located along Highway 28 just a few miles southeast of downtown Munising. It's just across the street from the snowmobile trail and offers easy access to backcountry adventures.



An extra-large parking area leaves ample space for towing vehicles, and you're just a short car or sled ride away from the fine restaurants and establishments of Munising. For a night in, you can relax by the pool or treat yourself to a nightcap in the 1/2 Pint Pub, located just off the main hotel lobby.

The friendly staff at Boarders is made up of area residents, many of whom happen to be snowmobilers. It's not uncommon to find their staff out on the trails or in the UP backcountry. Don't hesitate to ask for a trail guide at the front desk. There are plenty of friendly faces who are happy to show you and your riding crew some of Munising's best kept secrets!



▲ The Pictured Rocks National Lakeshore near Munising, Mich., often features massive frozen waterfalls in the winter. These are sights that you can't get anywhere else!



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READER PICKS» TOP 5 WESTERN DESTINATIONS

West Yellowstone, Mont. / Togwotee, Wyo. / Island Park, Idaho / Daniels Summit, Utah / Grand Lake, Colo.



After hours of traveling, we found snow-capped mountains in Oregon.

Midwest girl meets mountain experts

BY JESSICA KLINE • Stephanie Santeford photos

When I met sponsored freerider, Stephanie Santeford, at Hay Days in 2014, I did not think that just a few months later I would be high up on a mountain with her, learning my first mountain maneuvers!

In February 2015, Stephanie and I decided to embark on an “EPIC” snowmobile adventure which would take us 2,000 miles through Washington state, Oregon and Idaho in search of snow. Of course, some craziness, fun adventures and plenty of good snowmobiling were had along the way. Our primary focal points of this trip were twofold: 1.) Highlight the differences between mountain riding and my background of trail riding in the Midwest and Ontario. 2.) Promote avalanche awareness and backcountry safety ... and, as always, have some fun!

Many folks from the Midwest want to experience mountain riding to try something new and challenge themselves, and I was no different. Since I had been riding snowmobiles in my home province of

Ontario, Canada, for years, I figured I would be fairly well equipped to ride in the mountains. I quickly realized that I was in for a wild adventure, filled with big riding challenges, triumphs and a greater understanding of my abilities and what I was capable of.

Packing for success

What do you mean I don't need to wear four layers of clothes? I was obviously not prepared for what we were getting into as soon as Stephanie told me what to pack.

Winters in Canada are brutally cold, so I was used to wearing multiple layers under my jacket and pants. Stephanie quickly explained the differences in gear selection and what to expect when

trail riding versus mountain riding. While I perused FXR Gear online, Stephanie recommended that I look into uninsulated gear. I get cold easily, but she explained that riding in the mountains is extremely active. You must navigate constantly vary-

ing terrain, and therefore you often maintain a warmer body temperature. Lighter apparel helps a rider move easier and breathe better, reducing the chances of overheating.

Plus, who doesn't like getting new gear? I traded in my modular helmet (complete with an electric face shield), for a lighter, sportier X1 FXR motocross-style helmet, along with FXR unlined pants and a matching jacket. I learned that brighter colors are easier to see on the mountain, so bright pink became my color of choice.

I also packed both tinted and clear goggles (which are helpful if you are out on the mountain after dark), a neck warmer and smaller, less bulky gloves. My gear bag

was complete with a BCA Float 22 avalanche pack consisting of a shovel, probe, Tracker2 beacon and Float Airbag. I was ready to start the adventure!

PLAN IT OUT!

The best advice for a beginner heading west is to connect with experienced riders. Friends, mentors, guides or instructors are great resources. I had Stephanie, who patiently responded to many questions. I also researched the areas we were traveling to, and read articles and watched videos about safety. Check out BCA (www.backcountryaccess.com) and Avalanche1 (www.avalanche1.com).

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- ▲ Overcoming issues with confidence helped me improve my riding skills.
- ▶ High-protein food heated in cookers kept our energy levels high on the mountain.

The 15th Annual Ladies Ride

I knew that a trail sled from back home was not going to cut it on this trip. Fortunately, through some connections, I hooked up with Mike and Liz Van Amburg of Van Amburg Enterprises, and they were gracious enough to lend me one of their sleds to use for the trip. The iconic Pink Hawk sled I rode was a customized 800 Polaris Pro-RMK that was the 2013 Sledchix sled build machine. If you are not familiar with Sledchix, it's a group of 10 women who built this awesome snowmobile in just two days! The sled was perfect for me to learn to mountain ride on, and it came with a 155-in. Arctic Cat track and

3-in. paddles, as well as plenty of power to propel me up the mountain!

My first outing on the Pink Hawk was at the 15th Annual Ladies Ride, organized by sponsored freerider Brandy Floyd in Halfway, Ore. The annual event was created to highlight and support women who ride sleds. While the event was focused on riding, there was also a strong emphasis on camaraderie both on and off the mountain.

I was welcomed with open arms and received a great deal of help from these women riders, all of whom were of various ages, skill levels and backgrounds. My first day on the mountain was a bit overwhelm-

ing and incredibly humbling. Throughout that day, Stephanie and a few other women stayed by my side, teaching, encouraging and supporting me as I learned how to navigate terrain at high altitudes.

After meeting so many strong women, I felt empowered to do anything I put my mind to. Over the course of a weekend, I learned how to replace ice scratchers, load sleds on a sled deck, and even modify a sled with a Vertical Addiction VAeXhaust Can!



Mentally navigating mountains

While I'm comfortable on a snowmobile and know the basic skills, I really wasn't mentally prepared for the terrain I experienced on our epic snowmobile adventure.

That first day was challenging. I remember looking at Stephanie and shaking my head in doubt while yelling, "You want me to go up that?!" The steep incline looming over me was intimidating, but my riding buddies all gave me a thumbs up and encouraged me to step outside of my comfort zone.

Holding my breath, I gripped the throt-

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tle and pinned it up that steep hill all the way to the top. With cheers and high-fives, I grinned and yelled, "Let's do that again!" Looking out from the top of that mountain was exhilarating! The steepers are so wicked and extreme, yet gorgeous at the same time. They tantalize you with their beauty while teaching you more about yourself than you could ever expect. There is no way to experience that feeling unless you get out there and experience it firsthand.

Throughout this trip, I found muscles I didn't know I had, and realized I really need to step up my gym routine for the next time I head out west. Proper nutrition and hydration on the mountain were key in keeping energy levels up and avoiding altitude sickness. Stephanie prepared delicious meals (e.g., stir fry, burritos) in Snacker-packers to put in our cookers, and we also had high-protein snacks. We rode in altitudes as high as 10,000 feet and I noticed that I was MUCH shorter of breath, so regular breaks and lots of water were key.

Experience of a lifetime

Mountain riding is the most challenging thing I have ever done in my life. The emotional turbulence of testing personal limits



▲ We were told to be bright and colorful to stand out in the mountains. I think we nailed it!

AVALANCHE SAFETY AND BACKCOUNTRY SKILLS

My avalanche instructor was Mike Duffy, and my backcountry skills trainer was Bret Rasmussen. A basic avalanche safety course is essential, and the multiday course in Island Park, Idaho, included on-mountain training for using beacons, probes, shovels and techniques for an effective rescue. Search times and digging skills were improved with practice. We explored mountain terrain with experienced instructors and debriefed with in-class training sessions. Schooling by Rasmussen focused on meeting goals within our individual skill levels. I learned how to balance the sled and get it up on an edge, while others worked on advanced skills. Check out www.riderasmussenstyle.com.

and dealing with issues of confidence was exhausting. However, that feeling of triumph and accomplishment when making it up a steep incline, sidehilling across a mountain or down a straight drop was amazing.

Taking risks and stepping outside of my comfort zone helped me accomplish a lot

in a short period of time. I reached new personal goals, and I was also able to share my story with others in the hopes that they would be inspired to plan and prepare adequately for their first mountain snowmobile trip out west. Ready for Epic Snowmobile Adventure Part II? I am! 🐾

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AXYS Extreme Rear Bumper

GIVE YOUR NEW Polaris even more of an advantage by replacing the stock rear bumper with this lightweight, aluminum alternative. It installs securely by extending along the sides of the tunnel, protects the rear of your 2016 Pro-RMK, SKS or RMK Assault, and provides a sturdy handle for lifting your sled. All mounting hardware is included. Available in blue, orange, red, black or white. Cost is \$149.99. **More info:** www.polaris.com



FXR Racing Blade Carbon MTN Helmet

IF YOU'RE LOOKING for a helmet that looks cool while offering the best protection for your noggin, you might want to consider this one. It's incredibly lightweight thanks to the hand-laid 100% carbon fiber shell, and an extended rear diffuser transfers impact load to compatible neck braces. Four exhaust ports and 10 intake vents maximize airflow while the nose guard design helps prevent frostbite. The colors and racing graphics are pretty wicked too. Cost is \$399.99. **More info:** www.fxrracing.com



POWERMADD Sentinel Handguards

THESE LIMITED EDITION Sentinel Handguards were designed to be stylish as well as durable and functional. Slightly larger than PowerMadd's Star Series handguard, the Sentinel offers you more protection with an updated look and great accessories. The guard features a stiff, two-piece plastic spine for durability and a softer colored body for flexibility. Available in Black/Pink and Black/Green. Cost is \$40 (mounting kits sold separately). **More info:** www.powermadd.com

Motorfist Carbide Boot

GOOD BOOTS ARE KEY to keeping your feet warm and dry during day-long trail rides. The new Carbide Boot from Motorfist features 1200 grams of Primaloft insulation, durable outer shell materials and an eVent waterproof liner. A removable breathable insole, a cemented rubber sole and side mud guards can also be found on this standard lace boot. Cost is \$299.99. **More info:** www.motorfist.com



Arctiva Mech Insulated Jacket & Bibs

WATERPROOF, WINDPROOF and breathable, Mech Insulated Jackets and Bibs feature a durable dual layer of polyester-nylon construction. The jacket has a detachable hood and zippered vents for easy-to-adjust comfort. On the bibs, boot gaiters help keep the snow out, while full-length zippered vents on the inside and outside of the legs enhance breathability. Both pieces include a removable 3M Thinsulate liner and multiple easy-to-access pockets for stowing essential items. Available in sizes S-3XL. Cost is \$325 (jacket) and \$295 (bibs). **More info:** www.arctiva.com





Gold Digger Traction Master Stud

WOODY'S IS INTRODUCING this 1.575-inch-long stud to its lineup in an effort to accommodate the increased popularity of 1.5-inch lug tracks. The sharp, 60-degree carbide tip provides superb trail traction and durability on hard-packed snow and ice.

More info: www.woodystraction.com



NEXTECH tMotion 146-174 FOX Float 3 Evol Kit (rear)

DEVELOPED BY NEXTECH to replace your factory springs and shock with a FOX Float 3 Evol shock, this kit increases travel where other kits don't. You'll lose 4.5 lbs. of ice-holding springs, and gain full adjustment of sag height and bottoming resistance. An improved ride results from a new shock ratio, and time spent testing and adjusting the multi-stage valving makes the ride more compliant through stutter bumps, yet ramps up to soak up the bigger hits, all while providing more control of weight transfer. Cost is \$699 CA. **More info:** www.carbonsled.com



Klim LOCHSA One-Piece

ENJOY GORE-TEX three-layer durability and performance in the new LOCHSA one-piece from Klim. Complete comfort and coverage, and ultra-freedom in a truly simplistic solution for active and aggressive riders who want do-it-all outerwear. The LOCHSA offers breathability, massive ventilation, durable nylon construction and the lightest, fastest ride on the snow. Available in sizes M-2X. Cost is \$949.99.

More info: www.klimusa.com

HMK Women's Action 2 Jacket

STYLE MEETS VERSATILITY in this 3-in-1 jacket with a removable Destination mid-layer. The Action 2 features XR-Gold Weatherproof Technology, so it's built to withstand the worst that winter can dish out. The fully articulated hood is detachable, and reflective trim helps you stay visible at night. Bonus: HMK donates 10% of all women's merchandise sales to Pink Ribbon Riders to assist men and women diagnosed with breast cancer. Available in sizes XS-2XL. Cost is \$319.99. **More info:** www.hmkusa.com



C&A Pro Skis XCS (Xtreme Crossover Ski)

CROSSOVER SLEDS ARE

getting faster, lighter and stronger, so skis have to be able to dominate both on and off trail. Tapered for sidehilling and raised for reverse, the XCS's optimal

width of 6.75 inches provides ample off-trail flotation, as well as firm footing on the trail. Outboard keels help alleviate trail darting and deliver extra lift in deep snow. Traction scoops on both sides of the center keel keep the XCS planted and gripping the corners. Mounting kit and carbides sold separately. Cost is \$459.95 per pair (optional color handles cost \$10 extra). **More info:** www.caprokskis.com



Ultralight/Watertight .5 Medical Kit

WITH LESS SURFACE AREA than a sheet of paper, this compact medical kit is ideal for an outdoor adventurer with limited cargo space. The kit contains antiseptic wipes and butterfly bandages for treating small wounds; medications for pain, inflammation and allergies; and wraps and bandages to stabilize fractures and sprains. Everything packs into a lightweight siliconized nylon bag with a DryFlex waterproof liner with room to spare for some of your other first aid or survival items. Cost is \$17. **More info:** www.adventuremedicalkits.com



■ HOT PRODUCTS

Hillsound Trail Crampon

IF YOU FIND yourself hoofing it across a frozen lake or deep in the backcountry, you'll be glad to have packed the added traction of crampons. Tested on the trails of the Himalayas, the Hillsound Trail Crampon is guaranteed to handle diverse winter terrain and weather conditions. Utilizing an ergonomic plate system, this crampon provides excellent traction and reduces muscular fatigue for getting around on the winter ice and snow. Cost is \$59.99. **More info:** www.hillsound.com



Ski-Doo Helium 30 Jacket

A JACKET FOR the most active of mountain riders, Ski-Doo's Helium 30 Jacket features a radical lightweight and flexible design. The Sympatex 2-ply laminated, polyester shell is totally waterproof and windproof to keep you warm and dry throughout the day. Guaranteed durability with a BRP Lifetime Warranty. Available in sizes S-3XL (Tall sizes available in some colors). Cost is \$359.99 (\$379.99 tall). **More info:** www.store.ski-doo.com



Star Brite Salt Off with PTEF

SALT IS THE ENEMY of all metal parts, but you can't avoid it if you ride the ditches alongside salted roads, or if you haul your machine on an open trailer. Rinsing a sled can't remove all the salt, but Star Brite's Salt Off with PTEF can. The formula removes salt deposits from all surfaces, leaving behind a protective PTEF polymer barrier that helps repel future buildup. Simply spray on, allow to work, then rinse clean. Available in a ready-to-use 22-ounce sprayer, or in concentrated form that can be applied with an applicator and a garden hose for de-salting machines, trucks and trailers. Safe for all metal, plastic and painted surfaces. Cost varies. Find it at most marine and automotive stores. **More info:** www.starbrite.com



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PROTECT YOUR protection with Arctic Cat's ATS Helmet bag. Adjustable padding thickness accommodates multiple helmet sizes and styles. The compressed foam holds your helmet still and secure in the bag while traveling. The adjustable goggle storage compartment holds up to four pairs of goggles or multiple visors. Cost is \$99.95. **More info:** www.store.arcticcat.com

Bikeman Polaris 800 Durability Kit

RECOMMENDED FOR ANYONE with 1,500–2,000 miles on their Polaris 800 CFI or AXYS 800 H.O. engine, this well-known kit is now confirmed to work excellently in both versions of Polaris 800 engines! On the AXYS platform, we've seen up to a 5-hp gain due to the better port angle and crank case volume. These well-made pistons are taller, which displaces the load on the piston, resulting in less wear. The rings are also spaced for better cooling, along with added lubrication holes in the skirts of the piston. You will notice a very smooth running machine with great power! Cost is \$549.95. **More info:** www.bikemanperformance.com



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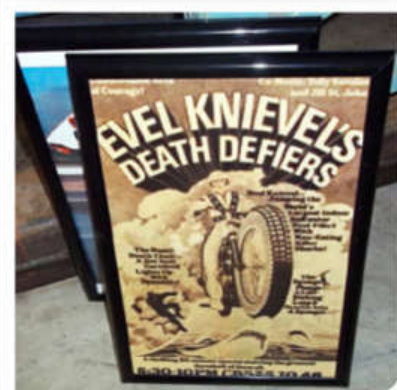
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Evel Knievel's 1975 Ski-Doo 245 TNT

» Evel Knievel had a snowmobile? What else would you expect from a crazy, powersports-loving Montana boy?

Robert Craig "Evel" Knievel was born on October 17, 1938, in Butte, Mont. He was raised by his grandparents, Ignatius "Iggy" and Emma Knievel.

After just two years of high school, Robert Knievel dropped out to work in a copper mine running earth movers. He was actually fired from the mines after he "wheelied" a large earth mover and drove it into Butte's main power line ... this was just the start of the Knievel legends. In a later incident, Knievel was taken to jail on a charge of reckless driving. When the jailer came around to check the roll, he noted Robert Knievel and began calling him "Evel." Knievel chose to misspell the nickname because he didn't want to be considered "Evil."

■ As Much As We Admired Evel...

Evel did not necessarily care much for sleds. He thought they were noisy and the exhaust smoked too much. Being the

showman he was, though, Evel agreed to ride a sled for a jump on CBS's "Evel Knievel's Death Defiers" show.

Ski-Doo offered him \$10,000 to use a 1975 245 TNT snowmobile for the jump. Knievel wanted \$1 million, but Ski-Doo didn't agree. As a result, Knievel took off all the Ski-Doo decals and painted it bright orange, which went well with the nice orange nose cone.



Knievel's snowmobile jumping career ended before he could attempt jumping the sled even once. In an earlier filming of the "Death Defiers" show, Knievel was to jump his motorcycle over a tank of sharks, but Knievel missed the jump in practice and crashed hard. He never performed the jump again. Knievel then hired Ron Phillips to jump the Ski-Doo snowmobile off a ski jumping ramp in Chicago, Ill., for \$25,000. Phillips was a well-known snowmobile racer, and he was also from Butte, Mont. But Ron didn't have a chance to practice the jump beforehand.

Phillips should have been going around 90 mph at the end of the ramp. Those who saw the ill-fated attempt said

he flew 25 feet and straight up in the air before falling off the rear of the snowmobile. The Ski-Doo landed on the rear of the tunnel, buckling it badly. Phillips suffered a career-ending spinal injury.

This Ski-Doo sled lived on though. It was brought back to Butte, Mont., and patched up so it could be trail ridden. Now everyone can see this amazing piece of snowmobile history. The Gottschalk family from central Minnesota owns the sled now, and they've restored it to original pre-jump condition.

Back in 1975, I had the chance to test a sled like this, and WOW, what a sled! Being 41¾ inches wide made it very stable with an overall length of 102 inches. The aluminum tunnel and frame and fiberglass hood made the overall height only 33 inches – low to give you that fast feeling, with no windshield. It was very light, weighing only around 320 lbs. dry. A Rotax twin cylinder engine with rotary valve induction powered the TNT.

If you ever see one at a vintage show, stop and ask if you can sit on it, and see how natural the sled feels. Perfect! 🐾



Minnesotan Les Pinz is a vintage sled expert with an extensive collection of historic and other antique sleds, and is a former snowmobile racer. He is a member of the International Snowmobile Hall of Fame and one of AmSnow's regular test riders.

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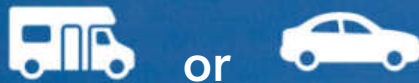
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